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Physical Protection of Hospitals

Report of Committee on the Physical Protection of Hospitals

Committees Collaborating in Preparation of Reports

Committee on Hospital Protection of the Council on Hospital Planning and Plant Operation of the American Hospital Association

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Preface

THIS report on the physical protection of hospitals was originally prepared by a special Committee of the Council on Hospital Planning and Plant Operation, of the American Hospital Association, in collaboration with a similar Committee from the Office of Civilian Defense.

It should be emphasized that the scope of the report does not extend beyond measures necessary for the physical protection of hospital buildings and their contents. Other publications covering emergency medical management, transportation, and chemical casualties, will be made available by the Office of Civilian Defense. The organization, operation and equipment of emergency medical field units, has already been published in Bulletins No. 1 and No. 2 by the United States Office of Civilian Defense.

It should be emphasized that the various measures suggested in this report are presented for voluntary adoption by State and Local Defense Councils on Civilian Defense and that revisions of the report may be issued from time to time as new developments make them necessary.

Scope and Purpose

In addition to general instructions for the protection of public buildings, it was deemed advisable that a special bulletin be issued in respect to the protection of hospitals. Unlike industrial plants, hospitals must continue to function at all times, the heaviest strain often coming in the midst of actual raids when industrial projects are at a standstill. The ordinary methods of industrial protection cannot be universally applied to

hospitals as the provision of sunlight and fresh air to patients is one of their basic and normal functions, which must be maintained at all costs.

Hospital administrators must concentrate every effort on the continuous maintenance of certain minimum essential services notably, operating facilities, elevators, light and water supplies. In order to accomplish this it is essential to have some alternative system of electric power and of water. The operation of certain essential functions must be maintained such as, communications, admitting rooms, operating rooms (with one or more fully protected basement rooms which can be converted in an emergency), and reserve supplies of emergency drugs, foods and blankets.

The scheme of preparedness in the individual hospital should tie in with the schemes of the other hospitals in the community, all of which will operate under State and Local Defense Councils. This cooperation should include not only the exchange of views and experience, but the possible use of a central supply service, the exchange of transportation and other facilities, and the exchange of personnel in the event that one or another should be taxed beyond its capacity.

The general hospital scheme of preparedness should in its turn cooperate with the plans of the State and National Defense Committees, the American Red Cross, and similar agencies. Only a systematic plan of cooperation will avoid duplication of efforts, friction, and general misunderstanding of the limits and extents of the field of duty of each hospital and organization.

One member of the administrative staff of each hospital should be selected to serve as liaison officer between the hospital and the civic authorities, Red Cross, priorities boards, and similar agencies, so that time will not be lost through red tape when urgent necessities develop during emergencies.

State and Local Defense Councils will inform the local communities what the hospitals are doing in the way of preparedness and will also instruct the public how to make the most effective use of hospital facilities when emergencies have arisen.

Although finances are strictly the business of the individual hospital, since no money from the Government is now available for the expenses involved in defense preparations, the Committee would point out that hospitals would do well to face these difficulties frankly and promptly. Unfortunately, almost all of the plans suggested in this report cost money. On the other hand, by the exercise of ingenuity, some equipment, material and facilities which are now unused, or regarded as waste, or used for other purposes, can be converted to new needs. Out-patient departments, for instance, can readily be utilized for the treatment of air raid casualties at minimum expense. It has been the usual experience that out-patient departments are also ideally situated for the treatment of gas casualties. Here we have available small segregated rooms and the activities of such a department, except under actual raid conditions, do not interfere in any material way with carrying on of emergency casualty serivces.

Certain economies can perhaps be put into practice, though it is realized that with the rising cost of everything economies are likely to be wiped out almost before they are instituted. The Committee feels that it is not within its scope to issue instructions or even advice on these points, and is merely calling to the attention of hospitals the necessity of studying their financial resources in relation to the physical protection of their plants.

Survey of Facilities

The first task of organization, which will shortly be undertaken by the State and Local Defense Councils, is a survey of hospitals as to beds, equipment, present facilities, possibilities of expansion, and personnel, including the number who could be spared in an emergency and the possibility of training additional personnel.

Too much time and effort will not be spent on the large first line city hospitals, which are known to be adequate, and which, even if they are in vulnerable areas, can provide more accommodations and facilities than are likely to be required. The object of the survey in these hospitals will be to find out:

1 How much equipment could be spared in an emergency for transfer to less fully equipped hospitals in safer areas?

2 To what extent could personnel be spared for the same purpose, assuming that certain portions of the hospital (as, for instance, the upper floor and half of the operating rooms) were to be abandoned?

3 What arrangements could be made for earmarking such equipment and preparing it for rapid transit to base hospitals during an emergency?

In country districts, on the other hand, the survey would be considerably more detailed and would have as its chief object the determination that facilities would be adequate for the purpose intended. The assumption would be that they

were not adequate until they had been proved to be. It would be necessary, for instance, to study the kitchen and other domestic facilities to determine:

1 The full number of patients and staff which the existing facilities could handle.

2 The increase which could be provided by the provision of additional equipment, without major structural alterations.

A similar detailed study would be made of laundry, storerooms, operating rooms, other rooms not normally used for patients, and neighboring buildings which could house extra staff.

The survey officer, in studying the individual hospital, would determine how many extra beds could be provided:

1 By crowding existing accommodations.

2 By using rooms not normally used for patients.

3 By sending home patients who do not urgently require treatment.

4 By restricting admissions.

The actual addition to existing facilities is obtained by subtracting from the total number of beds thus estimated:

1 The number of beds lost by clearing the upper floors or other parts of the hospitals, where this becomes necessary.

2 The number of beds lost by enlarging the reception and resuscitation rooms on the first floor, which will probably necessitate the conversion of wards and private rooms for this purpose.

3 The number of beds lost because their situation is dangerous or would interfere with rapid casualty work.

In country hospitals, in which no beds would be abandoned, any addition to existing facilities would represent a clear gain. It must be remembered, however, that the mere addition of extra beds is not enough. The survey officer must satisfy himself that the kitchen and other facilities could provide for them without major structural alterations. The same precautions must be taken with regard to existing operating room, x-ray, and storage facilities.

The provision of reserve supplies is discussed in detail under the heading, "The Unit System and Reserve Stocks."

Following the taking of the survey, each locality will be zoned as to hospital facilities by the State and Local Defense Councils. Generally speaking, each zone will consist of:

1 One or more casualty hospitals, that is, large first line hospitals situated in vulnerable areas.

2 A number of associated hospitals in surrounding safer areas.

This type of zoning or sector system thus implies, in one zone, both casualty hospitals in vulnerable areas and receiving (or base) hospitals in safe areas, even though the latter may be at a considerable distance from the former. Provision must be made, by careful planning, for the rapid transfer *outwards* (that is, to safe areas) of staff and equipment.

The distribution of casualties in a given zone is the responsibility of the State and Local Defense Councils and not of the individual hospital, whose responsibility is limited to their reception and care.

Field Work: How first aid should be handled outside of the hospital is the responsibility of the State and Local Defense Councils and has already been outlined in Bulletin No. 2 of the Office of Civilian Defense.

Protection of Fabric and Personnel Against Bombs and Fire

Types of Bombs

The weapons against which protection must be provided in protective construction are: 1) aerial bombs; 2) machine gun and rifle fire and fragments from antifire shells.

Aerial bombs may be classified according to purpose as:

1 Demolition bombs
2 Fragmentation bombs
3 Gas bombs
4 Incendiary bombs
5 Armor piercing bombs
6 Aerial mines
7 Aerial gunfire

1 *Demolition Bombs:* Demolition bombs are designed for the primary purpose of demolishing buildings and other structures. They range in weight from 50 to 4000 pounds, about half the weight being explosive. Bombs of this class in the smaller and medium sizes are used against ammunition dumps, light structures such as dwellings, apartments, commercial and manufacturing plants, airdromes, and railroad tracks, while the heavier bombs are used against factories, harbor works, bridges, major fortifications, and naval vessels. Bombs in the larger sizes may be used against any target but it is not generally economical to do so. In the attacks on European cities, the majority of bombs dropped have not exceeded 550 pounds in weight. Large bombs intended for factories or railroads yards may land

in a residential district, even when no civilian bombing is intended.

2 *Fragmentation Bombs:* Fragmentation bombs, which weigh from 17 to 30 pounds, are effective chiefly against personnel. They can be used against aircraft on the ground, searchlights, and any other targets which are easily damaged or destroyed by fragments, although demolition bombs are generally used for these purposes.

3 *Gas Bombs:* Gas bombs are usually much smaller than demolition bombs and their effects on structures are much less. They affect the design of air raid shelters chiefly in making necessary gastight inclusures, gas locks, and a more comprehensive system of ventilation than would be required for normal conditions.

4 *Incendiary Bombs:* Incendiary bombs, usually weighing from 2 to 100 pounds, are composed principally of magnesium, thermite, oil, or other highly incendiary material, and are used chiefly against easily inflammable targets such as congested dwelling areas in cities, munitions dumps, etc. Some phosphorus bombs have been developed and used in certain instances.

5 *Armor Piercing Bombs*: Armor piercing bombs have heavy cases, designed for maximum penetration, and have a smaller proportion of explosives than demolition bombs. Past experience does not indicate their use except against highly resistant targets.

6 *Aerial Mines*: Aerial mines are very large bombs weighing approximately 2000 pounds, similar in design to submarine mines. They are released with a parachute and detonate on impact and produce intense blast effect. They may be used against miscellaneous targets, including densely built up residential areas.

7 *Aerial Gunfire*: An aerial attack may include machine gun and cannon fire, in addition to bombardment. Present day military aircraft mount .30 and .50 caliber machine guns, and cannon as large as 37 millimeter. Structures designed to give protection from bomb splinters probably will be immune to aircraft machine gun fire. Aerial gunfire against ground structures is of relatively little importance in comparison with the danger of bombs to ground structures.

Fragments of anti-aircraft shells, which fall from considerable heights, attain velocities sufficient to cause injuries to unprotected personnel and to such portions of buildings as light tile roofs, skylights, windows, etc.

Protection of the Building Fabric

In estimating the possible vulnerability of a hospital, the industrial, transportation and administration centers near it must be taken into consideration, as well as the number of searchlights and ainti-aircraft guns in the immediate vicinity. The higher the bombers must fly to escape these protective devices, the larger will be their target and the less accurate their aim. In considering to what extent the facilities of a hospital may be employed in an emergency, these various factors should all be carefully weighed.

A direct hit will do more damage to a small, compact, many-storied building than to one that is more spread out, though a spread out building is more vulnerable. As a matter of fact, it is not practical to provide hospital buildings which could resist a hit by a high explosive, or the blast effect of such a bomb. Buildings on steel frames (especially as such buildings are constructed in America) are least likely to be seriously damaged. Reenforced concrete buildings have not been found to be especially safe except from the standpoint of fireproofing. Buildings carried on walls of brick, concrete blocks or wood, cannot be made safe. On the other hand, no hospital building should be abandoned unless it is constructed entirely of wood and is so located that its highly inflammable character would make it a hazard even in peacetime.

The suggestion that if the walls can carry the weight, a six inch layer of concrete be added to the roof and upper floors is theoretically sound but in practice is an expensive procedure which would be difficult to justify. A practical method of fireproofing against incendiary bombs has been found to consist of a two inch layer of sand in the joist areas with a layer of ordinary chicken wire placed four inches above it. The entire joist areas should then be treated with white wash or some other type of fireproof paint. The chicken wire serves the purpose of retarding the velocity of the bomb or incendiary. Here again the ability of the building to withstand the weight of the sand must be considered.

Other possible though expensive procedures are the installation of additional columns, to carry additional weight, or the preparation of tubular steel struts, with screw jack ends (properly marked with corresponding marks on the floors and ceilings) which are kept ready for immediate installation in the event of an emergency.

Experience has shown that major structural alterations of existing buildings are not usually feasible, and hospitals would do well to confine these changes to protection against fire. Otherwise, the best plan is to concentrate services as far as possible on the lower floor which is the least likely to be damaged by bombs which penetrate the buildings or strike the ground nearby.

The following table designates the depth of craters of delayed action bombs by size of bombs and on different media.

Depth of Craters of Delayed Action Bombs

Size of bomb	Earth, sand, gravel	Bricks or soft rock	Reinforced concrete, class A (3400 lbs.) Total depths of craters where slab is continuously supported	Proof thickness*
	Feet	*Feet*	*Feet*	*Feet*
100 pound...	5 to 10	3	1.2	2.4
300 pound...	9 to 17	6	2.0	4.0
500 pound...	12 to 23	8	2.6	5.2
1,100 pound...	21 to 41	13	4.3	8.6
2,000 pound...	30 to 57	18	5.8	11.6

*The "proof thickness" is taken as equal to twice the total depths of craters. This is recommended by British authorities to provide for the uncertainties of the calculation and for the effect of scabbing. This recommendation is believed to be safe and is probably excessive, especially in the larger sizes of bombs. Tests are planned which should give more exact data, and figures based on these tests will be made available in 1941.

The lower floors can be protected by additional brick or masonry construction. Sandbagging, although extensively practiced at the beginning of the war, has been found to be far too troublesome and expensive to justify the slight protection offered as a result.

Safes, stoves and other heavy objects should be transferred to the lower floors where they will do the least harm if the building should be struck.

Hospitals built with window walls, or areaways, below the ground level, to provide light to basement rooms, should take immediate steps to cover these openings with steel or some similar material, to minimize the damage caused by the entrance of bombs or land mines into the basement by this route. A great deal of damage was thus caused in the relatively new building of the London School of Hygiene.

Windows

The only really safe way to avoid the risk of shattered glass is to remove it. This is sometimes feasible. Cubicle walls made of glass can be replaced by screens, glass shelves and the glass tops of tables can be replaced by metal, or, if contamination need not be considered, by beaverboard or wood. Because of the essential need of light and air, a wide spread use of opaque paints is impractical in the hospital.

Skylights and domes, if the glass cannot be removed, should be boarded over with fireproof timber. There is no way at all of protecting large plate glass windows, and they should be removed entirely and replaced with smaller paned windows, or the space should be bricked up. Before windows are bricked up, however, the effect of the loss of ventilation and of sunshine must be calculated; the result of such a loss could be serious in wards in which patients remain for any length of time. A complete description of this subject is to be found in the publication on "Blackouts" issued by the Office of Civilian Defense.

If windows are to be bricked up, the following points should be borne in mind:

1 In operating rooms in basements, the windows should be bricked out altogether, and artificial lighting and ventilation provided.

2 In certain basement and ground floor wards designed for the reception of casualties, certain windows, perhaps one in every three, should be planned for bricking up, and the others should be protected as described later in this section.

3 If a window is bricked up, it should be completely covered (that is, entirely to the top) and the glass should be removed. The bricking should be twelve to fourteen inches in thickness.

Nearly all of the plans suggested for the splintering of glass have proved entirely impractical. These include the use of non-shatterable glass, criss crossing the glass with strips of paper, tape and gauze, and the covering of the entire pane with transparent paper or cellophane. The only plan which has stood the test of bombing is the protection of the window on the outside (against light missles) by strong wire mesh, and the gluing of muslin to each pane on the inside. Old net curtains, which admit light freely, have proved cheap and useful for this purpose. The net or muslin should extend beyond the glass and onto the window frame. It should be pasted on with flour paste or colorless glue, and then should be varnished after it has been applied. The varnishing should be repeated every three months.

When windows are broken and must be replaced, the most practical plan is to replace them with glass, although light-weight canvas, muslin, or cellophane spread on muslin may be used.

The hospital staff should be instructed in such commonplace practices, in this connection, as placing beds away from the immediate vicinity of windows and covering the face and hands of patients with bedclothes, pillows, or any available material, during raids.

Protection Against Fire

Each hospital should develop its own staff of fire spotters and fire fighters, the necessity for

and the value of whom has been proved by the London experience. Conferences should be carried out with local fire officials, who are now being trained in new conditions developed by the war. It should be entirely understood that the hospital fire organization is intended to supplement the trained fire fighters of the local force and not in any way take their places.

The hospital should be inspected from top to bottom, with particular regard to attics, basements, closets, storerooms, and other places likely to house accumulations of unnecessary and possibly inflammable material. Whatever is not needed or likely to be useful should be discarded promptly. Records should be transferred to a safe place of storage, both to protect them and to eliminate a possible source of danger. It is desirable that they be moved out of the hospital altogether, even if they are stored in the basement, since underground space is too valuable in war time to permit its use for such purposes. It is important that the old type of x-ray films, which are highly inflammable, should be destroyed if they are no longer needed or otherwise transferred to a safe place of storage.

Special attention should be given to gasoline, ether, and alcohol storage. They should be removed to a safe distance from the hospital. Actual air raid experiences, where such stores have been hit, have demonstrated that the explosion of such stores provide an excellent target for further attacks from the air.

After these precautions have been taken by the hospital personnel, the city fire inspectors and the insurance inspectors should be asked to examine the hospital and to point out possible points of danger, where fire would be especially likely to break out and where precautions should be taken. Thereafter, the hospital and grounds should be inspected daily, to make certain that trash has not reaccumulated. The superintendent or his assistant should also inspect the hospital grounds personally at least once a week and sign an inspection book for that purpose.

The greatest danger from incendiary bombs, as has been pointed out under that heading, is on the roof and in the upper stories of the hospital, which is an additional reason for keeping attics free from trash. All portions of the top floors should be readily available for fire fighting purposes. If sufficient stairways are not available, ladders of adequate length, preferably of metal, should be procured and kept in place at the trapdoors by which access to the roof is gained.

The roof and the upper stories should be fireproofed in whatever way is most practical. Workable methods include the use of fireproof paint (aluminum silicate base), whitewashing, and asbestos sheeting.

Whatever plan is used, trained and properly equipped watchers should be stationed on the roof during every raid. They should be provided with asbestos gloves, masks with eye-windows, and other fireproof clothing, as well as with firefighting equipment described in a subsequent paragraph. Whenever possible, the incendiary bomb should be kicked or thrown off the roof into the grounds or to the street, where it can do no harm.

An automatic sprinkling system is naturally a desideratum but many hospitals do not possess one. It should not be relied upon exclusively, for it is useless if the water supply should be cut off. Portable fire extinguishers, which should be inspected regularly, should be placed at strategic points throughout the building. The carbon tetrachloride type of extinguisher should be replaced by some other type as this type produces phostene gases when used on incendiary bombs. Stirrup pumps should also be placed about the hospital, and the personnel should be trained in their use, as well as in the use of fire extinguishers.

Incendiary bombs are best controlled by a fine spray of water from a stirrup pump or by a full stream from a fire hose, or by sand, the latter being the simplest method. The method of throwing a pail of water on the incendiary bomb is not practical as it only tends to generate additional heat. Ample supplies of sand should be kept about the hospital, particularly on the roof and upper floors. Pails and cans, in which lard or butter are delivered, make cheap and satisfactory containers. The sand can be kept in them, in strong paper bags, to avoid unnecessary dirt about the hospital. No pail of sand should weigh more than ten pounds. Several smaller pails, which readily can be moved by women, are preferable to a single large pail. Each pail should be provided with its own long handled shovel. Workers on the roof will find four foot square sheets of asbestos a convenient and safe way of smothering an incendiary bomb.

Firedrills are discussed under the heading of "Evacuation."

Shelters

Basement or cellars offer the only practical places for shelters, though it must be certain that their ceilings are strong enough to bear the weight of the building if it should be hit and should collapse. Basements should be kept free of everything except material needed during raids if they are to be used for this purpose. More than one exit, and preferably several, should be provided, as a single exit may be blocked by falling debris which would take hours or days to clear

away. Ready access should be provided from the hospital.

An air conditioning system is desirable if practical, otherwise ventilation must be provided in some other way. Heating pipes frequently will keep basement shelters warm and dry, but a supply of blankets should be laid in anyway, since ill and convalescent patients and young children may suffer unduly from the cold. Arrangements should be made in advance for turning off heat and hot water pipes in these areas because of the danger of serious injury to individuals using these areas, should breaks occur. If space is limited, shelves can be built around the wall to hold bassinets for babies or bunks (with sides) for young children. Some provision should be made for hot drinks, and drugs and dressings to be used in an emergency should be kept in the shelter under lock and key at all times.

New Construction

New construction is unlikely to be undertaken during wartime. If it is, it should be carried out in relation to wartime exigencies, although established principles of hospital construction should be followed as far as possible.

It has been suggested that new hospitals should be in rural areas, hidden from observation, camouflaged, or contoured into hillsides; that construction be fireproof throughout; that supporting columns be thick and strong; that the roof be of concrete; that there be many cross walls; that elevator shafts and staircases should be in separately enclosed spaces; and that basements be planned for use as air raid shelters. Of these suggestions, only the ones concerning fireproofing and the use of basements as air raid shelters seem really practical. The hospital built in the country will either get a direct hit, in which case all protective work is useless, or the bomb will fall on soft ground and do little damage.

Enclosed courts should be avoided, as enclosed spaces increase the risk of damage from exploding bombs. Also to be avoided, for obvious reasons, are high chimneys, parapets, heavy cornices and pediments, gables, towers, and similar heavy and unnecessary ornamentation and construction.

Windows should be of such design that they open flat against the wall, or else capable of being removed and stored. They may be of the usual size but it is a good plan to make the individual panes of glass small. Shutters should be provided. Skylights should be omitted.

The operating room, gas, water, and electric power, telephone switchboard and other vital services should be located in the parts of the hospital designed to be of the greatest possible safety. The gas, water, sewage and electric systems should be so designed that they can be cut off sectionally. Plans should be made and space allowed, if not equipped, for alternative operating rooms and similar essential services to be put into use in the event of injury to the original space.

Blackout

The blackout introduces the problem of eliminating from the hospital building all light, no matter how small and faint, which might be seen from the outside, while at the same time maintaining sufficient light for the performance of essential services within the hospital.

Skylights and domes should be boarded over, as already described, with timbers which have been fireproofed. Fanlights and transoms, which need to be opened, can be painted with several coats of black paint and black tar paper, or the black paper used around packages of x-ray films, can be cut into wide strips and pasted or tacked around the frames.

Shades and curtains already in use are not likely to be satisfactory for blackout purposes, since for a successful blackout they must extend at least six inches beyond the frame on each side and at the top and bottom. Any sort of black cloth which is impermeable to light can be used, but this property should be tested, not by daylight but by holding the cloth against a strong electric bulb and being certain that no light at all seeps through it. In addition to its property of capacity, the material should also possess durability, permanence of dye, mechanical strength, non-inflammability (if possible) and resistance to heat and damp. The type of blackout material which has proven to be most practical is the type which is entirely in one piece and is attached to the side of the window in such a manner that it can be drawn across the window during raids. The various types in use will be found in the publication "Blackouts" from the Office of Civilian Defense.

Very large windows can be covered with strips of carpet stitched together and attached to a strong roller. If new shades or blinds are procured, they should be large enough to overlap the whole window opening. Tarpaulins should be kept in reserve as temporary coverings to prevent exposure of light, until other measures can be taken, in the event that the existing arrangements are destroyed during a raid. Whenever possible, a second set of blackout curtains should be kept in reserve.

An additional precaution is to paint with black paint an area ten or twelve inches around each window and door frame, to minimize the reflection of light. Strips of beaverboard four to six inches

wide, painted black, can be attached to the tops of window frames, to guard against the escape of light through cracks above the shades and curtains; they can be so mounted that they can be swung out of the way during daylight when they are not needed. For smaller rooms which are in constant use for administrative or other purposes it will probably be found more economical in the long run to provide well fitting shutters.

Double entrances are essential in rooms which open outside and which must be kept lighted. Otherwise, the light must be turned off before the door is opened. Special provisions of this kind must be made for entrances at which ambulances will unload.

Lights

The hospital should be surveyed several nights, with the idea of determining what lights can be dispensed with entirely; tests can be carried out by leaving certain lights on one night and other lights on another. When it has been determined which lights are not necessary, the bulbs should be removed. Lights of reduced candlepower can be substituted for lights of higher power wherever good light is not an absolute necessity. The use of small bulbs screwed into the baseboard is a possibility in corridors or wards, and provisions can also be made for dimming lights.

Tin tubing, such as is used for stove pipes, can be cut to the proper size, painted black, and used over unprotected bulbs, to throw the light downward in a circle and prevent the rays from spreading. Desk lights should be provided with dark shades which can be tilted downward.

In operating and accident rooms, where good light is essential, the blackout must be carried out with scrupulous care. Small, well protected blue bulbs or fluorescent lights can be used to indicate entrances. Doorways, inside and outside, can be indicated by broad heavily painted white stripes four or five feet above the floor or street level.

It is desirable that all lights be connected to a single control point, so that they can be instantly extinguished in the event of damage to the premises causing exposure of lighting. Such control switches should be located at various convenient points throughout the hospital. It is also a wise precaution to arrange for all lights other than for a dim few, shaded, previously selected lights to be extinguished as soon after the receipt of an air raid warning as the necessary, prearranged precautions for protection, evacuation to shelters, etc., have been carried out. All hospitals should be in a position to complete their lighting restriction measures within a few hours' notice. To achieve adequate concealment of lights, while at the same time providing for the carrying on of necessary work, is a lengthy, time consuming process which cannot possibly be deferred until lighting restrictions go into effect.

Test of Blackout

Every window, transom and door should be individually inspected, to be certain that the blackout is complete. The inspection should be carried on outside the building, by competent, reliable observers, who preferably have had nothing to do with the institution of blackout precautions. The inspection must be carried out routinely and repeatedly, to be certain that precautions are not being relaxed. These tests made by the hospitals themselves are aside from and in addition to the surveys which will be carried out under the jurisdiction of air raid wardens.

The State and Local Defense Councils will provide the general rules for blackout. These should be posted in conspicuous places throughout the hospital, and should be supplemented by such rules as the hospital authorities have made for the behavior of their own personnel.

Ventilation

Ventilation during the blackout is a problem. During the day shades can be raised and curtains and draperies pushed aside. At night, doors and windows in used rooms can be kept open. Opening the window behind the shades and curtains is not adequate, and may be dangerous, since even a slight breeze may blow the covering aside. If, however, the shades and curtains extend beyond the frame on all sides, and if their lower edges are adequately weighted, it is possible to open the windows, especially if they are of the casement variety, without the coverings blowing about or admitting light. Wornout flashlight batteries make excellent weights.

If ventilating fans are used, the interior opening must be piped well beyond the edge of the curtain. Various ingenious forms of ventilator traps are described in the bulletins issued by the English Ministry of Home Security. They are made of tin, cardboard or wood, painted black, and are generally used on the principle that there must be at least two right angle turns. Several efficient examples are shown on Page 23 in "Blackouts" issued by the Office of Civilian Defense.

Utilities

Although the provision and up-keep of essential services, including the telephone, are under the jurisdiction of the State and Local Defense Councils, the hospital must also share in this responsibility.

The majority of hospitals already have maps of

the distribution of their essential services, such as electricity, heat, water, telephone, and sewage. If such maps do not already exist, they should be made promptly. In addition, important valves, flanges, switches, etc., should be identified by special colors, preferably corresponding to the code of the American Society of Mechanical Engineers. The maps, code colors and other essential data should be in the possession of several persons, at least two of whom should be constantly available in the hospital at all times during the day and night.

Usually the essential services are taken care of by several separate cables, pipes, drains, etc. If these separate arrangements do not already exist, they should be instituted.

Hospitals are usually on the priority list for restoration of essential services in case of breakdowns, but a situation must be conceived in which the outside services are also hopelessly interrupted, and arrangements must be made for carrying on the hospital routine as well as possible without outside facilities. The most obvious precaution to be taken is to protect with special care, by location, sandbagging, or additional brickwork, the telephone switchboard, the engine room, and the entrance to the hospital or grounds of pipes, drains and cables.

Telephone

Since switchboards may be jammed with incoming calls, it is essential that one or more lines be reserved solely for outgoing calls. A supply of wire should be kept on hand to provide temporary service in case of emergency.

The private branch exchange, which is sometimes of more value than outside lines, is frequently powered from special batteries inside the premises, but they may also be put out of commission. Provision should therefore be made for the carrying of interdepartmental messages. Boy and Girl Scouts will be useful for this purpose, and may be used even if the service is not interrupted, to relieve the pressure on the switchboard. Special messengers with motorcycles should be held in readiness to handle communications outside of the hospital.

Lighting

Many hospitals already possess auxiliary lighting systems, and those which have not should consider installing them. The possible types include a water-driven generator, an internal combustion and engine-driven generator, and electric storage batteries, the latter type being the most practical. If secondary connections to an alternative electric supply do not exist, they should be installed at once.

It has been estimated that the peak electrical demand is ½ kw per bed per day, half of which is for laundry purposes. Therefore a single 25 kw generator would usually be adequate for a 100 bed hospital for all but laundry purposes. Whatever type is installed should supply at a minimum the operating rooms, accident rooms, admitting room, and at least one elevator. The experience of many British hospitals has been that even with small sets these essential services can be carried on satisfactorily for as long as forty-eight hours.

In many British hospitals it has not been found practical to maintain the x-ray department, owing to the difficulty of obtaining a generator of sufficient power. If this proves to be the case in this country the minimum essentials for the alternative electric system would be:

1 Lighting for operating rooms, essential corridors, reception room, control office and telephone exchange
2 Power for two elevators
3 Lighting for emergency and admitting departments

Auxiliary electric systems should be tested out at regular intervals, to be certain that they are in proper working order. Dry-cell batteries are apt to deteriorate in long periods of inactivity, and the British are inclined to favor the accumulator type, which can be recharged at intervals.

Provision for lighting should also be made in the event of the destruction of the alternative electric system. Portable lights, powered by individual batteries, have proved very satisfactory. Candles are obviously dangerous, and although they should be provided, together with stands and shades, they should be used only as a last resort. Every employee should be provided with a flashlight, the possession of which, as well as the battery, should be checked routinely. The newer types of flashlights which can be worn on the wrist and thus leave both hands free are very useful. Electric lanterns have been found to be very useful. These and similar devices should be used with caution for it has been proved that a hand flashlight can be seen in the air from a plane at a distance of five miles.

Water

If a second connection to the water main does not exist, it should be promptly installed, and more than one additional connection would be desirable. Plans should also be worked out by which portions of the water supply could be cut off, without cutting off the entire supply, which would frequently mean the interruption of the heating system and other essential systems.

It has been estimated that the average hospital

uses 150 to 200 gallons of water per day per bed, but that the amount could be reduced to 100 gallons by proper economy. The storage of any such amounts of water, either in underground tanks or by tanks on the roof, to feed the building by gravity flow, is entirely impractical. If the location permits, the digging of a well, with proper pump connections, would be satisfactory.

It would be well to stock a supply of disposable paper plates and cups for use if water must be rationed.

The maintenance of a safe water supply for drinking purposes is the business of the Sanitary Engineering Division, but the installation of a portable chlorinator by the hospital might be a wise precaution, since a general breakdown of civic facilities might occur. A supply of mineral water and distilled water might be laid in also.

Every hospital should be provided with a small gasoline driven suction pump, for use if the basement should be flooded.

Heat

If the heat supply is interrupted, the best plan is for the personnel to work in heavy clothing and for the patients to be kept warm by additional blankets and by properly tested and protected hot water bags. A good type of hot water bottle, for emergency use, is the so called sausage type, which can easily be made of discarded inner tubes, cut into sections, with one end completely sealed and the other partially sealed and provided with some sort of screw cap or other closing device. These can be made in the hospital workshop. The use of kerosene or gasoline stoves is not practical or safe. Aside from the great risk of fire under wartime conditions, ventilating difficulties arise; stoves of this type burn oxygen and give off carbon monoxide and dioxide, which would be especially dangerous under the circumstances of the blackout.

Sewerage

If sewage pipes should break, gravity will take care of the overflow if the break is below the lowest point in the hospital. Otherwise, if the system will stand the pressure (which should be determined beforehand) the use of back-pressure valves at a point beyond the lowest outlet from the building is a possibility. A pump should be provided, to prevent flooding of the engine room and other essential services. The sanitary dangers of a break in the sewage system are clear, and if prompt repair is not possible, evacuation of the hospital should not be delayed unduly.

The sewage for a hospital is estimated at 150 gallons per bed per day, and the provision of a cesspool to take care of even one half of that amount is too impractical to warrant discussion.

Every hospital should be provided with emergency latrine buckets (not chemical closets) of some simple type, one bucket being provided for every 50 persons (patients and staff). The best type has a wooden seat which slips on to the rim of the bucket and can easily be removed. These buckets should be kept in storage and issued only in the event of emergency.

Garbage

Food is restricted and probably rationed in time of war, and garbage will be correspondingly less. Whatever can be used to feed pigs should be saved for that purpose. What remains can be destroyed by incineration, and an incinerator should be installed if the hospital does not already possess one, since the breakdown of the garbage collection system must be contemplated as a possibility.

Fire Drill and Ward Evacuation

Every hospital which does not already have a system of fire drills should institute one at once, and should practice it at intervals, not only to perfect it, but for the psychological effect upon patients and personnel. The same system is used for evacuation of the wards as a fire drill is also used for an air raid, except that in case of fire every patient, regardless of his condition, must be removed. All exits should have doors which open outward. It would be desirable to have all doors throughout the hospital open into halls and corridors, but unless they are already so constructed, the alteration would be too expensive to be considered. Additional exits should be provided, against the possible blockage of regular exits by massive debris.

Convalescent and ambulatory patients should be housed, as much as possible, on the upper floors, and the patients who must be moved in chairs and on stretchers should be kept on the lower floors. A system should be worked out by which ambulatory patients leave the ward first, those in wheel chairs second, and stretcher patients lastly, if at all. Patients in wheel chairs are helped into them by ambulatory patients, nurses, or orderlies, each of whom is specifically assigned to a certain bed. Stretcher cases are nursed with canvas stretchers under the bottom sheet, and specific members of the personnel are assigned to certain beds. If by any chance the ward must be emptied by emergency helpers, observation of the projecting stretcher poles will make clear immediately the patients who must be carried out. If sufficient stretcher poles are not available, the patients can still be nursed on stretchers as described, and the poles inserted when necessary.

If mattresses and springs are separate units, four or five strong canvas loops can be securely attached to the mattress units, and the patients can be lifted and moved on them, as if on stretchers.

Ambulatory patients, on the receipt of the first warning, put on dressing gown and slippers, and pick up the extra blanket kept by each bed. One nurse is assigned to accompany all ambulatory patients from all the wards on one floor downstairs to the shelter. Patients in wheel chairs follow and then patients on stretchers. If the patients fully understand what they are to do and the arrangements made to care for them, there is no panic.

In some cases, either for lack of adequate shelters, or for other reasons, certain patients are not moved from the ward. They are sometimes put under the bed, on mattresses, but this is not practical for fresh surgical patients, patients with bad heart conditions, patients in extension, etc. The beds of these patients are moved away from the window, to avoid injury by flying glass and other missiles, or are moved into the corridor. A heat cradle is placed upright behind the head and is draped with a blanket. An overbed table is drawn over the bed up to the waist, and a mattress is put over it. The patient is thus protected from flying splinters, has no sense of suffocation, has full view of the nurses, and is in full view of them. The plan can be carried out even if the bed is in Fowler's position. If the supply of mattresses is insufficient, those from the beds of ambulatory patients can be used.

Under the British Plan, if for any reason a maternity patient cannot be promptly discharged to her home, she is allowed out of bed, in the absence of complications, for a few minutes the day of delivery, and for longer periods each successive day. Her baby is kept in a bassinet by her bed, and she carries the child to the air raid shelter herself, if the ward must be emptied. This plan has caused no greater morbidity among obstetric patients and no higher incidence of uterine prolapse than the plan of continued bed rest; such minor risks would be regarded as justified, anyway, in view of the greater dangers of bombing. With practice, it has been found possible to empty a maternity ward of all patients, including stretcher cases, within seven minutes.

It should be pointed out that the elaborate precautions which have been described in the foregoing paragraphs are not generally taken on the receipt of an air raid warning, but only if a raid actually takes place. There are many disadvantages in disturbing patients unnecessarily, particularly since patients in hospitals in wartime are usually quite ill. Otherwise they would have been discharged to their homes. Moreover, unless the basement shelter is exceptionally strong, there might be grave risk in crowding many patients into one place.

Facilities

The British experience has shown that a hospital intended for the treatment of wartime casualties must provide the following departments or facilities: Entrances for ambulance, ambulatory and gas casualties; a reception room for casualties, for recording admissions and sorting cases; a room for the treatment of minor injuries; a resuscitation and transfusion room for patients to be kept under observation or to be operated on; gas decontamination rooms; operating rooms; storage rooms for patients' clothes and valuables; kitchens for patients and personnel; dressing rooms for personnel; information office; waiting room for friends and relatives; laundry; mortuary.

The necessity for most of these facilities is obvious and needs no discussion. They can be arranged for as best suits the present building and equipment of the individual hospital.

Laundry

The hospital laundry must be prepared to function additionally, which usually means the acquisition of additional equipment and the employment of additional help; otherwise arrangements must be made with a commercial laundry, which is probably the best plan. During an emergency, shorter washing formulas may be employed to speed up work as well as to conserve supplies.

Operating Rooms

The present operating rooms, which are usually on the top floor, with large windows and skylights, are obviously dangerous in wartime, and their location, away from the reception for casualties, lessens their usefulness, aside from the possible difficulties in elevator service. Provision should be made for one or more operating rooms, depending upon the contemplated casualty population of the hospital, in the basement or on the ground floor. The arrangements need not be elaborate, but there must be provision for ventilation, hot and cold water, disposal drains, lighting, heating and sterilization. Air conditioning is desirable if possible. The operating rooms should be next to or as near as possible to the reception and resuscitation rooms, so that proper liaison can be maintained between them and the rooms receiving casualties and preparing them for surgery.

Provision should be made for at least two operating tables to each operating room. One anesthetist, with the proper nursing assistance, can

handle two tables at once if necessary, and the amount of supplies and the number of assistants needed is also reduced.

It is important that each individual hospital make precise plans for all possible emergencies. A role for every part of the physical plant should be decided upon well in advance. It is true that a large part, perhaps the major part, of such arrangements will be determined by the State and Local Defense Councils, but whatever is not must be carefully considered by the hospital administration and definitely arranged for in advance.

Special provision must be made for fracture tables, because of the greatly increased number of injuries to limbs (due to air raids, the mechanization of the army, intensified industry, and automobile and motorcycle accidents during blackout). Additional plaster tables are also necessary if the closed treatment of wounds is used.

Distribution of Patients to Wards

It is wasteful of supplies and personnel to open too many wards at a single time and put only a few patients into each. On the other hand, to lessen the strain on the nursing staff, severely injured patients should be distributed among several wards. It is particularly unwise, because of the heavy nursing demands, to fill a ward with severely burned patients. A special ward should be kept for obviously moribund patients, for both psychological and practical reasons.

Mortuary

Figures from Britain may be cited to show the necessity of increasing the present mortuary space. Of 23 casualties brought to the Royal Free Hospital in one convoy, six patients died enroute or within a few minutes after admission, and eight more within twelve hours. In a second convoy of forty-three casualties, eleven patients died enroute or immediately after admission, and six more within twenty-four hours.

Patients dying enroute to the hospital should be removed to the mortuary at once, both to spare the living patients, especially those badly shocked, and to make room for patients for whom something can be done. The mortuary should always be an outside building. Identification should be carried out, if possible, before the bodies are discharged to the mortuary. It is hoped that eventually some form of identity disk will be put into use among civilians as well as among the military.

The vital importance of securing additional staff for mortuary work should be stressed. Nurses, whose prime duty is toward the living, should not be employed for preparing and laying out bodies. The work of identification, even if carried out in the wards, should be done by lay workers. The bodies should be cleaned and prepared before being exposed to relatives and friends for identification and should be laid out on tables and stretchers not used for other purposes. It is clear that some special training is necessary for good team work. The Health Department will make such legal arrangements as will permit the prompt release and disposal of bodies without undue legal delays.

The importance of post mortem examinations for scientific purposes should not be forgotten, and permission should be sought in all feasible cases. The various reports in the English journals prove that it is practical to carry out scientific researches of real value under the most unfavorable conditions.

Unit System and Reserve Stocks

Every department of the hospital, particularly the various utilities, the information desk, x-ray, pharmacy, accident and emergency rooms, operating rooms and delivery rooms, should have a well thought-out plan by which it could function in some other location if its original location and equipment were destroyed. Such a plan implies the maintenance of a stock of reserves which would be promptly available in case of emergency.

In general, before the additional equipment and supplies are purchased, the hospital should survey what it has and what substitutes could be used in an emergency. The provision for reserve supplies should be limited to estimated capacity and needs, and should not approach hoarding. On the other hand, due consideration should be given to possible future rationing or priorities. If for any reason a hospital cannot or does not wish to lay in full supplies against a possible long-term emergency, the purchasing agent should find out where and at what price the necessary items can be purchased, and should check both their availability and their price at least once a week.

Hospitals in the same location profitably could be encouraged to pool their reserve supplies of blankets, mattresses, pillows, linen, drugs, and other items in a central depository, drawing on them as needed, to reduce expenses.

Provision for the following items is particularly important:

Beds

Cots which can be quickly set up should be provided for locations previously determined. They should not be kept set up, unless a continuous series of emergencies are likely to develop, but rehearsals should be carried out so that they can be set up rapidly when the need arises. Some British hospitals have preferred to provide extra

iron beds, six feet four inches by two feet six inches by four inches. Twice the usual number of fracture beds should be provided, and any special type of bed which might be needed should be provided for in advance.

A supply of mattresses and pillows, as well as of bed linen, should be laid in, in proportion to the number of beds to be used and the necessities of the operating room and casualty reception room.

Blankets

Shocked patients are always cold, and their lives may be saved by getting them warm promptly. The two blankets usually provided per stretcher are not enough unless the teams are trained (and are really dexterous) in the special schemes of folding used in some British hospitals. It is a safer plan to lay in an additional supply of blankets, with due allowance for ambulance use and use in the emergency and operating rooms, as well as in the wards.

In this connection, an additional supply of electric cradles and hot water bags would be useful.

Food

A supply of non-perishable food, preferably canned, should be kept in a separate pantry, or better, in a bombproof and gasproof room. It should be used only in an emergency, though, if the emergency does not develop promptly, it might be well to use boxed foods by a systematic plan of rotation, replacing what is taken by freshly purchased articles.

Instructions for the protection of food from contamination by poison gas have been recently issued by the Ministry of Food in London. They recommend that whenever possible foodstuffs should be kept under cover and not stocked in the open. They should be protected during handling at every point where they are not normally exposed to air, particularly if they are not packed in sealed containers. Tarpaulin sheets of the oil silk type offer the best temporary protection for stocks in the open. If they are not available, screens may be improvised of canvas, sacking, or corrugated iron. In warehouses and similar places food not in sealed containers should be stored on middle floors away from windows and should be covered with protective sheets. Meat in cold storage is believed safe from contamination under ordinary circumstances. If there is any suspicion that food has been affected by poison gas, the matter should be reported to the Health Department who will take the necessary steps.

Fuel

Supplies should be accumulated on the basis of possible emergency needs, with due provision for safe storage of combustible materials.

Drugs and Biologicals

Certain drugs are already scarce or are likely to become scarce, and general economy in the use of all drugs should be practiced. A revision of the National Pharmocopeia, such as has been undertaken already, in effect in England, may be necessary to classify drugs into those essential and readily available, those essential for certain purposes, whose use should be restricted, and those not essential, which do not justify importation or manufacture. Certain British hospitals do not permit drugs in the latter two categories to be secured unless the order has the approval of a senior staff physician, and have found that this precaution has greatly reduced the use of such drugs.

Drugs and biologicals likely to be needed in excess supplies include the sulphonamides, morphia, tannic acid, gentian violet, tetanus and gas antitoxin, sera of various kinds, oxygen, and saline and dextrose solutions. It is important that oxygen tanks be stored in a safe place.

Ten per cent of the air raid casualties in Britain have required blood transfusions, and large amounts (two or three pints) have been used for the individual patient. The provision of blood or plasma supplies is therefore an important responsibility of the hospital staff. Blood matching is difficult if not impossible during an emergency, and stored blood, universal donors, or plasmas or serum must be relied upon.

Which of these methods is preferred is the business of the medical staff, but some definite understanding must be arrived at as to what will be used, since the facilities required for preparation and storage differ according to the method used. Liquid plasma will probably be preferred for some time because of its availability for instant use, but where storage is important the use of lyophilized plasma is much simpler. The idea that either soldiers or civilians may carry their own dried plasma about with them for use in emergencies is alluring, but practical considerations, including the serious risk of contamination, are against the plan.

In the British Isles it has been found desirable for each large city to have a control supply station for blood and plasma, where these agents can be secured, prepared, stored and distributed, but each hospital must be prepared with limited supplies of its own for immediate use.

Other Supplies

It has been estimated that the patient wounded in an air raid, because of extensive multiple wounds, requires from three to eight times the amount of dressings necessary for a patient wounded in peace time. Provision must be made

for extra sterilizing drums, wrappings and dressing carts. It would be well, as mentioned in the discussion of food, to use and replace dressings in rotation, because of possible contamination and deterioration.

Such a large proportion of casualties have injuries of the limbs, an additional supply of splints, plaster bandaging and similar material must be laid in. Oiled silk envelopes for the new treatment of burns must be supplied also.

Instruments should be simpler than those used in civil practice, and operating teams should be encouraged to improvise, and not to demand special expensive equipment, or to cease work because they do not have it. The patient's life is practically never put in jeopardy by the lack of special operating room equipment.

Other equipment which should be provided for additionally includes portable x-ray machines (as well as supplies for x-ray developing solutions); oxygen catheters, Boothby-Lovelace masks or some other standard mask; and blood pressure apparatus. The provision for additional blood pressure apparatus is most important, since the determination of the blood pressure has been found to be the simplest method of estimating the status of the shocked subject. The reserve supplies need consist only of cuffs, since the same sphygomanometer can be plugged in and removed as necessary.

Additional parts should be laid in for all plumbing, electric devices, and similar equipment throughout the hospital.

Supplies of cigarettes, hard candy and milk will be found useful in air raids, for their psychological as well as their physical effect.

In connection with reserve supplies, it cannot be stressed too strongly or too often that the larger city hospitals, especially the teaching hospitals, must be prepared to strip themselves of equipment, in order to fit up their associated country hospitals for possible emergencies. This applies especially to supplies from operating rooms on upper floors, portable or tranportable x-ray equipment, and other stores. Reserve supplies of these particular things are always expensive and difficult to procure. A large casualty hospital is dangerous in the very nature of things and should not carry more equipment than is absolutely necessary for its work.

Morale

Possibly the most important consideration in the management of a hospital during wartime emergencies is the necessity of making the entire personnel comprehend that preparations must be made on the basis that an emergency is positively going to occur rather than that it is likely to occur. No opportunity must be lost to convince them of the seriousness of the emergency which may arise, even though there is no present evidence of it, and of the serious nature of the preparations which must be made to combat it. Overtime work and the sacrifice of personal comforts would not be hard during an actual emergency, but the maintenance of morale is always difficult during a period of non-activity.

A well-trained, conscientious staff makes for calm patients and averts the risk of panic in an emergency. Therefore discipline must be strict and unremitting at all times, and no laxity of any sort must be permitted.

Regular rehearsals must be carried out in every department. They should include the driving, loading and unloading of ambulances in a blackout; stretcher bearing; fire drills and the evacuation of wards; working in the operating room and elsewhere in gas masks; working in the hospital generally in blackout conditions. These rehearsals should be serious from start to finish. The British promptly learned that smart remarks from the victim and return facetiousness from the rescuers could not be permitted.

Air Raid Casualties

Peak loads should be anticipated and prepared for on clear, moonlight nights, though bombs may be equally expected on other, darker nights.

Casualties comprise persons of all ages and states of health, including those with chronic diseases such as cardiac, renal or diabetic disease, which may require special modifications of treatment. Children in London have been born and bombed the same day.

Statistics show that the principal conditions to be treated are burns (due to scalding by steam from broken pipes, and chemical burns); crushing injuries (many patients being under continued heavy pressure for many hours or even days); fractures of all types; and shock and hemorrhage.

Patients injured in air raids differ from those injured in peacetime not only in the nature and extent of their injuries but in their general condition. Their clothing is torn and filthy, their hair singed, their faces and bodies covered with dirt and their noses, eyes, ears and mouth filled with dirt.

The routine of admissions and movement of patients should be so planned that they enter and pass from one room to another in definite sequence, without lost motion or time, just as in a mass production factory. Time is not saved by the rate at which the ambulance travels to the

hospital, but by a minimum of delay at every point. Team work is essential, from the time the ambulance enters the hospital ground through the patient's passage into the reception room and his final transfer to the ward or his evacuation to another hospital. If the work of the reception room goes smoothly, the work of the remainder of the hospital is likely to go smoothly. That is why plans must be worked out and rehearsed down to the smallest detail. A certain amount of improvisation may be necessary during an actual emergency, but proper planning will reduce it to a minimum.

Ambulance Entrance and Admission

Ambulatory and ambulance casualties are received at separate entrances, which should be in charge of level-headed, experienced gatemen. They will only permit the entrance of casualties by these gates, will be in general charge of traffic, and will direct friends and relatives to waiting rooms, through different entrances.

The ambulance entrance should be provided with a frame barricade such as that described in the publication "Glass and Glass Substitutes" issued by the Office of Civilian Defense. This frame barricade should be of the two wall type with one wall vertical to the building and the outer wall parallelling the entrance. Over the barricade a canopy should be placed. The vertical wall should be aproximately eight feet in width, allowing for the entrance of the ambulance. Directions for the ambulance driver, in order to make deliveries under blackout conditions, should be marked with reflector lights placed not higher than two feet above ground level.

An ambulance should discharge its load and receive fresh blankets and empty stretchers in return without waiting for the stretchers it has brought to be unloaded. This implies the use of a standard type of stretcher.

Within the hospital direction signs should be clearly painted on walls and floors and all departments should be clearly labeled, so that there will be a minimum of unnecessary traffic.

The first stretcher brought into the reception room should be placed farthest from the door, so as not to block the entrance. Others should be placed successively nearer to the door, in order of admission, unless the medical officer determines that a special case is of particularly urgent priority and interrupts the routine. The stretchers should be so placed, on trestles of standard height, that there is ample room on all sides for movement and manipulation.

Provision should be made to divide the sexes if that is possible; if not, screens can be used as necessary. Separate toilet facilities must be provided for men and women.

Stretchers

An additional supply of stretchers should be provided. Ambulances should not be held while stretchers are emptied, shocked patients should be left on them to avoid additional moves, and fresh surgical patients, newly delivered women, and cardiac and other seriously ill patients should be nursed on them, to facilitate their prompt removal in case of fire or air raids.

The best type of stretcher is comfortable enough for a long period of occupancy; strong, with sufficient clearance to prevent the patient from touching the ground; capable of prompt and simple insertion in and removal from the ambulance; light enough to be carried by one person when not in use; washable; capable of decontamination; and as inexpensive as possible in the light of these requirements.

The British have devised various types of inexpensive wheeled stretchers which can be handled by a single person and which can be halted and kept steady with the patient on them. Most of these stretchers can be made of material already available in the hospital, by the hospital carpenters and engineers. A special type of x-ray stretcher has also been devised to minimize the handling of shocked patients.

Discharge of Patients

Before an uninjured or lightly injured patient is discharged to his home, it must be made certain that he still has a home to which he can go.

Supplies

Supplies should always be kept in the same place clearly labeled. Those which have been used should be replaced as soon as the emergency ends. Tables can be kept set up, with sterile materials and instruments laid on them, covered with sterile towels, and additionally protected with cellophane frames, which can be lifted. Certain equipment, such as that needed for antitetanic administration and blood and plasma transfusions, can be kept sterilized in boxes with hinged covers and fronts, ready for immediate use. An ample supply of clean sterile towels should be available, so that wounds may be covered after the patients have been undressed and further contamination prevented.

Operating Room

The actual surgery of wounds is the business of the physician, but the hospital administrator must determine what facilities the hospital can provide and must meet with the medical staff to determine how the personnel shall be distributed.

Casualties will be assigned to hospitals not only on the basis of their bed capacity but also on the basis of their operating room capacity. The number of patients who can be operated on within at most 10 hours should be the limit of the number of stretcher patients to be admitted (10 hours is regarded as the upper limit of time which bacteria remain *on* the surface and do not make their way *into* the living tissues). It was found in the last war that the average operating table, if continuously and adequately manned, could not handle more than twenty-four patients within 24 hours. It has been estimated that if two tables are used, two competent surgeons, with the full quota of assistants, anesthetists, nurses and orderlies, can handle 2.5 operations per hour.

The value of such estimates is doubtful except to figure the hospital's potential admission capacity, since the number of cases handled depends upon the type of the wound and the state of the patient, as well as upon the ability and speed of the operating surgeons.

Decontamination Station and Equipment

A separate entrance is always necessary for gassed subjects, to prevent their carrying into the hospital gas in liquid form or gas generating substances on their clothing and shoes. If it cannot be obtained, wet blankets hung near the entrance provide a sort of double entrance.

A separate ambulance, which can be readily decontaminated, should be kept for gas casualties, and special stretchers, of washable material or covered with oilcloth should be used. After being used, the stretchers should be scrubbed with chloride of lime and exposed to the air.

If possible, a minimum of three rooms, each large enough to permit free movement, should be set aside for gas decontamination, the first for the removal of the clothing, the second for bathing, and the third for the treatment of injuries. Separate facilities must be provided for men and women. Ambulatory gas casualties will be treated elsewhere than the hospital.

All equipment in the rooms, such as stools and tables, must be covered with washable material or oilcloth. Stools are preferable to chairs. Showers are preferred for gas decontamination, but tubs should be provided for those who, because of age, debility or wounds, cannot stand up, or it may be necessary to spray such patients on the table.

Attendants in the gas decontamination room wear respirators, special gasproof gloves and oilskin coats. Ordinary rubber gloves are not gasproof and should not be depended upon. These garments are awkward to work in, so that repeated rehearsals are necessary. Also, they are likely to deteriorate, and inspections must be carried out at regular intervals. The ordinary gas mask furnishes effective protection of the lungs and eyes against every type of gas likely to be used. Special care must be taken in dealing with ammonia and carbon monoxide gases, as the ordinary type of mask is not effective in these instances.

Bandage scissors provided for the decontamination room must have unusually large finger holes, to permit their use with the type of gloves which must be worn.

The ventilation of the decontamination room must be adequate to prevent the accumulation of gases in it. When the special emergency is over, everything in the room must be scrubbed with chloride of lime, the walls and floors must be hosed, and the room left open to the air for twenty-four hours or more.

Miscellaneous

Warning of Emergencies

General air raid warnings are the business of local and Federal authorities, but the hospital itself, after consultation with the local authorities, to avoid possible confusion and conflicts, should determine upon some special siren to give warnings of fires and other internal emergencies.

Personnel

The British have found that it is practical to divide their hospital personnel into four groups, as follows:

1 A group actually on duty within the hospital
2 A group which reports to the hospital for duty as soon as the air raid warning is sounded, without notification of any sort
3 A group on call, which does not report until called for duty from the hospital. Volunteer workers are included in this group
4 A group of employees who have been on duty in the previous shift and are not called under any circumstances until their rest period is over

Clothing

In addition to the provision of an adequate number of hospital garments for patients to be hospitalized, a supply of clothing (preferably collected and managed by volunteers) should be kept for gassed or wounded patients whose clothing has been removed for decontamination or has been cut off or destroyed.

Some plan must be devised to identify clothing which has been removed. The simplest plan is to give each patient a number on admission and to

attach tapes marked with this number in indelible ink to the various articles by a stapling machine or safety pins.

When clothing is removed, it is separated according to the type of material and put in string bags, or, if it has been contaminated by gas, into airtight bins.

Radium

Special consideration must be given to the protection of radium, not only because of its financial and therapeutic value, the latter of which is too great to permit its used to be discontinued, but also because of the risk of its dispersion. The amount of radium possessed by any institution is small, and the containers in which it is kept are also small, but in the event of even an indirect hit, they might be hurled to great distances, and might not be readily located, or they might be broken and their contents dispersed. In that event, the buildings and locations would be unsafe for many years unless they were cleared by specially protected workers, and it would probably be safer to abandon them. The inhalation of even a small amount of radium (1/100 mg.) might be fatal.

The first step in the protection of radium is to make a census of the amount in each location. The safest plan in wartime would be to use it in the form of radon, which could be prepared in some non-urban area.

Radium itself should be used only during daylight hours if that is possible. Surface applications can safely be employed if some special person is designated to remain with the patient and to remove the radium immediately to storage in the event of an air raid warning. If the application is made internally, the body of the patient, unless badly mangled, would probably serve as an adequate shield.

Opinions differ as to how radium should be stored. Concrete buildings and bulletproof safes, with walls at least three inches thick, have been proposed but are not very practical. Some hospitals in London have wells from thirty to fifty feet deep, into which the radium is lowered and from which it is raised by a specially built and protected bucket. Whatever plan is decided upon, the radium should be kept in some place in which the risk of a direct hit is at a minimum. An underground storage place is best. It should be assigned to the direct charge of two or more persons properly instructed in the risks of its exposure and dispersion.

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The Hospital – The Tree of Life

ASA S. BACON

I ONCE heard a professor from the University of Wisconsin say, "Nobody in a thousand years has told a fact that was not already known." That is rather a broad statement, but I know what I have to say is already known. But lest we in this generation, when the pessimistic outlook seems justified because of the distress of nations, overlook some of the facts that are fundamentally important to us as hospital administrators, more than ever before, we need to depend on each other for guidance in carrying on our humanitarian work. The torch of knowledge must be passed on from hand to hand. We need education, stimulation, and kindled imagination.

The Author

● **Asa S. Bacon, Administrator Emeritus of the Presbyterian Hospital of Chicago, is one of the widely known hospital authorities of this country.**

"The Tree of Life"

> In *Revelation* we find this interesting passage: "on either side of the river, *was there* the tree of life, which bears twelve *manner* of fruits, and yielded her fruits every month; and the leaves of the tree *were* for the healing of the nations." (Rev. 22:2)

There is no institution today that is more likened to this tree of life than is the hospital. Your hospital is a tree of life spreading its leaves of healing over the community. Each administrator has the great responsibility of keeping his "tree" healthy, of seeing that no "dry rot" effects the natural growth of any of its branches. The leaves of our tree grow on so many branches that we cannot enumerate all of them. I will mention just four—service, education, public welfare, and permanency.

Service

There are many kinds of service but I am going to speak of service that does not stress business methods so much as it does a service of love. Service that is appreciated comes from a person full of love and kindly sympathy, who inspires confidence in God and man. "When I have attempted to join myself to others by service," said Emerson, "it proved an intellectual trick—no more. They eat your service like apples and leave you out. But love them, and they feel you, and delight in you all the time."

Our whole structure — buildings, equipment, personnel and professional staff must be built around service to the patient. This is true of every hospital, large or small. The administrator is responsible for developing faith, kindly interest, and humane methods among the entire personnel. Atmosphere radiates from the main office. The personnel must realize that within the four walls of the hospital is an opportunity, unmatched in any business or industry, for the individual to grow in sympathy and understanding of the great brotherhood of man. It does not take a patient long to know when he is surrounded with efficient and humane attendants whose great purpose is to relieve him of his suffering and to help him get well in the quickest possible time.

Patients come to the hospital with varying degrees of sickness, disability, and injury. They entrust themselves to the ability, integrity, and sense of devotion of the medical staff and the hospital personnel. We must all measure up to our responsibilities and our obligations, and always keep in mind that we are dealing with human lives.

Education

Whether large or small, the hospital should be considered an educational center. In the laboratories, clinics, pathological conferences, at the bedside of the patient and in the medical library members of the attending staff are continually adding to their knowledge, while the residents, interns, and nurses are being taught the theory and practice of nursing and medicine. There should be definite plans and definite aims for educational growth for the medical staff and for the hospital personnel. And it is the duty of the administrator to see that these plans and aims

Address before the Eighth Annual Convocation of the American College of Hospital Administrators, Atlantic City, 1941.

keep abreast with the latest and the best developments in patient care.

Each hospital should have a library to provide reading matter for the patients and employees. Reading has a therapeutic value. It helps the patient get his mind off his ills and may help him become interested in new lines of endeavor. Employees should be made to feel that the library is for their use, also, and they should be encouraged to take extension courses or go to night school.

Public Welfare

Then there is the education of the public. Generally, the public does not have the correct impression of hospitals. In recent years emphasis has been placed on the need for hospital administrators to acquaint the public with the value of hospitalization in the interest of individual and public health. National Hospital Day programs, hospital service yearbooks, bulletins, radio talks and other methods have done much to waken the public to the place of the hospital not only in the care of the sick and injured but in disease prevention.

Each community has some agency which is responsible for a program of health activity, such as the department of public health, visiting nurses association, Red Cross and other various health organizations too numerous to mention. Considering the position of importance in the community of the hospital, the administrator should take an active part in promoting all health activities. He should be familiar with the work of the different health agencies and should assume leadership in correlating the work in order that duplication of service may be avoided.

Permanency

You are building for permanency, for perpetuity. People come and go. Panics come and go. Wars come and go. Hospitals come and stay in spite of wars or panics. There are 400-year-old hospitals in England. All countries have their old hospitals. We have them in our own country: Massachusetts General Hospital, Pennsylvania Hospital in Philadelphia over a century old, and scores of them over a half century old. The people who contributed their money, who took part in guiding the destinies of these institutions, had faith in the perpetuity of hospitals, and our people today have this undying faith.

Do not hesitate to ask for endowment funds, for this is one of the best ways to perpetuate your hospital. With the old time practitioner gone and specialization of medicine the vogue, the doctor is more and more becoming hospital-minded. He likes to concentrate his work. The rapid organizing of plans for hospital care in all the cities of the country and the health policies issued by insurance companies, hospital publicity through National Hospital Day, radio and other methods, modern methods of transportation, Federal, state and city public health service, all combined, are filling our hospital beds. I predict that the spread of our hospital service throughout the country will increase. The time is coming when relatively few babies will be born outside the hospital. New hospitals will be built, and the old institutions will expand, in spite of the fact that we are living in the midst of perilous times.

Perhaps there never was a generation when the pessimistic outlook was so great. But other generations have looked upon the earth and found it wanting. This world was created perfect: but the course of the human race has been mostly downward. The Duke of Wellington remarked shortly before his death, "I thank God I shall be spared from seeing the ruin that is gathering round."

In 1783 William Pitt, British Premier, said, "There is scarcely anything around us but ruin and despair." To go back to the days of Solomon, members of the older generation were looking backward to the "good old days" and making unfavorable comparison with their present condition and circumstances. Their pessimistic outlook called forth a reproof from King Solomon:

> "Say not thou, What is *the cause* that the former days were better than these? for thou dost not enquire wisely concerning this." *Eccles* 7-10

Perhaps this is a timely admonition for us at present, when we may be inclined to look too much upon the dark side of our situation.*

It is true that administering a hospital is a highly technical and difficult job, but as an old timer in hospital administration, looking backward forty-one years when I first started in hospital work and following through from the boarding house type of institution to our great hospitals of today, I can say, and proudly so, that "the good old days" are today and in the days to come. In the field of hospital administration you are guardians of the nation's health. There are few professions that have greater opportunities for service to humanity than hospital administration. You should accept every means to educate and fortify yourself. It is a long pull, a never ceasing job, but you will be greatly rewarded for your efforts.

Your hospital is the tree of life to the community. As hospital administrators may you keep your tree of life spreading leaves in abundance.

*L. J. Burgess in "Signs of Our Times."

Educating the Administrator

A. C. BACHMEYER, M.D.

THE modern hospital, primarily the product of the remarkable advances made in the biological sciences, is a highly complex and intricate institution. The importance of its role in human affairs is attested by the increasing use made of it and the demand for its services by all classes of the public, and by the constant extension of its functions into fields other than that of the immediate care of the sick. The increasing complexity of the internal organization of the hospital, the steadily growing pressure of economic difficulties, and the necessity for ever closer integration of its activities with those of governmental and voluntary health and welfare agencies in the community, all tend to make the administration of the institution more exacting and difficult. The task of the hospital administrator is no longer that of a casual occupation. The many serious responsibilities which it entails cannot be imposed upon the uninformed, untrained, and inexperienced individual without great cost to the institution, the medical profession, and the public.

That there was a need for trained administrators was evident to leaders in the field over thirty years ago when Doctors Washburn and Howland published, what I believe to have been, the first paper on the subject in the *International Hospital Record* in 1910. For more than ten years the American Hospital Association had a committee on "The Training of Hospital Executives." The report of that committee, under the chairmanship of Dr. M. T. MacEachern, presented a thorough discussion of the subject and outlined a carefully prepared and detailed curriculum. The Rockefeller Foundation on two occasions supported comprehensive studies of the situation. However, until very recent years there was comparatively little demand on the part of boards of trustees for trained and experienced executives.

Apprenticeship in Hospital Administration

Years ago a small number of leading administrators undertook the training of young men (primarily physicians) through their appointment as assistants and the provision of what might be termed an apprenticeship. A number of the prominent executives of today benefited by such experience. Apprenticeships for laymen, as well as physicians, are offered by an increasing number of administrators today. This method of education for the administrator possesses considerable merit when properly conducted. The student is brought into constant and close contact with the many problems of administration; the cost to the student is negligible for he holds a remunerative position and his compensation in almost all instances increases as he acquires experience and demonstrates ability. The disadvantages of the system most frequently encountered are, that the student is not regarded as such and is so encumbered with duties that there is no time for study, that he gains knowledge of but one institution and not infrequently his experience is limited to only certain restricted phases of the organization's activities, and that he does not obtain a perspective of the entire hospital field.

The apprenticeship method of training was used by all of the professions until such time as organized courses of study were established. Some of them, as in medicine, still find it profitable to use a form of apprenticeship after the completion of the basic courses and before the student enters upon an independent career. Hospital administrators who elect to undertake apprenticeship training in administration should give serious consideration to their own abilities, to the facilities at their disposal, and to the question of whether or not they have the time to fulfill the role of instructor and can develop a sound and progressive program for the student.

University Courses in Hospital Administration

In 1934, under the leadership of Michael M. Davis, with financial support granted by the Rosenwald Fund, a course in hospital administration

The Author

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Presented at the American Hospital Association Convention, Atlantic City, 1941.

was established in the School of Business at the University of Chicago. When Mr. Davis left Chicago the University was successful in eliciting the interest of the Commonwealth Fund and of obtaining financial support for the program from that foundation. The course is organized on the graduate level, therefore, only students who hold college degrees are eligible for admission. Physicians, nurses, laymen and laywomen in excess of fifty have completed the course and with few exceptions are now engaged in various executive position in hospitals.

The student's program of study is arranged in accordance with his previous education. Nine months of study in residence at the University, at least one year of administrative internship and a report upon a project of intensive study are required of the student who desires to obtain the degree of master of business administration. This course does not pretend to fully qualify the student for the post of a hospital administrator. It does seek to furnish him with knowledge of the fundamental principles of hospital functions and organization, acquaint him with sound administrative practices, and give him a perspective of the role of the hospital in human affairs. The number of students enrolled annually is limited to ten, in order that the work may be individualized, that the students may have personal contact with the lecturers and the administrative officers of the various hospitals they visit, and that they may obtain the greatest possible benefit from the demonstrations and tours of observation in those institutions.

The period of study at the University provides an opportunity for the student to give his undivided attention to the various aspects of hospital organization and administration and to obtain a comprehensive perspective of the role of the institution in society and of its proper relation to the medical and other related professions. The subsequent period of practical experience enables him to observe the application of the principles he has learned and to participate actively in administrative work.

Courses in hospital administration have also been established at St. Louis University, under the direction of the Reverend A. M. Schwitalla, S.J. For the most part, these are undergraduate courses leading to the degree of bachelor of science in hospital administration and are primarily designed for the members of the Catholic Orders.

These organized courses and the apprenticeships under experienced administrators represent two channels of approach that are available at present to an individual who desires to follow a career in hospital administration.

Institutes for Hospital Administrators

In recognition of the need for trained men and women administrators, and the desire of many executives to further their knowledge, the American Hospital Association established an Institute for Hospital Administrators in 1933. This Institute, consisting of lectures upon the various phases of hospital work, discussion and seminar periods, demonstrations and visits to hospitals, has been held each year since then in Chicago. Other similar institutes have been held in various sections of the country under the auspices of the American College of Hospital Administrators and in conjunction with universities and local, state, and regional hospital associations since 1935. These short, refresher courses have been attended by more than two thousand administrators, heads of departments and other hospital executives. They have been well received and are generally acknowledged to have been of great benefit to all who have attended. The demand for training and for continuing the administrator's education is clearly demonstrated by the large attendance at these various institutes.

Hospital Administration Has Become a Distinct Vocation

Hospital administration requires special aptitudes and an extensive fund of knowledge. It involves a knowledge of the basic principles of medicine, nursing, social service, business organization, personnel management and labor relations, finance and accounting, purchasing, mechanical, electrical and sanitary engineering and other basic fields. It calls for personal qualifications that are encountered only in the older professions. The administrator cannot know intimately all the details of every procedure carried out in the institution, but he must know the significance of and the implications of all activities that are undertaken.

Change and progress in science is constant. Human relations are never static and in these days, particularly, conditions in all fields of endeavor are in a state of greatest flux. The administrator must keep abreast of the times. His quest for knowledge must continue throughout his life or at least throughout his active career.

Having secured a basic training through one of the methods mentioned, the administrator should continue his education through attendance at such institutes or refresher courses as opportunity permits, he should attend the conventions and meetings of the various hospital associations (state, regional, and national), and should participate actively in local hospital councils and

other community conferences. His daily program should provide a period for reading and study. The various hospital journals present much information that is of immediate interest and application, but publications in related fields—in medicine, nursing, public health and in the fields of hotel management, engineering, business and finance—are of almost equal importance.

The executive has need of a well selected and comprehensive library. The literature in the hospital field is scattered and incomplete. The few books that have been published afford only an introduction. The various journals are of greater value but one must develop a critical attitude in order to appraise much of the material that is published and must develop qualitative sources of information. This requires initiative, time, and energy but the benefit to be obtained fully justifies the effort.

Board of Trustees Should Appreciate Importance of Professional Qualifications for Administrator

There is a growing supply of trained hospital executives. Boards of trustees should no longer consider the appointment of individuals of little training or no experience as administrators of their institutions or the selection as such of one of their own number whose only qualifications are no job and a passing interest in the hospital. Having chosen a well qualified individual as chief executive, they should place him in full charge and clothe him with full authority and responsibility for the conduct of the institution.

Boards of trustees should encourage their administrator in his or her efforts at self-improvement, if for no other reason than the selfish one —that the better informed and trained the administrator is, the better will be the general management and service of the institution.

St. Luke's Hospital Installs Its New Administrative Heads

Leo M. Lyons
Executive Director, St. Luke's Hospital

St. Luke's Hospital, Chicago, announces the appointment of Leo M. Lyons, Commissioner of Relief of the City of Chicago, as the new executive director, effective February 1.

Mr. Lyons since February 1932 has been prominently associated with the welfare program of the State of Illinois, and since July 1936 has been Commissioner of Relief of the City of Chicago.

Mr. Lyons will be directly responsible to the president of St. Luke's Hospital for the general management of the hospital. He will have under his direction all the personnel connected with the hospital, will be generally responsible for all activities carried on, and for the effective utilization of all the hospital's personnel and facilities in rendering the best possible service.

Dr. A. P. Merrill, who has been assistant director of St. Luke's Hospital since 1940, was appointed medical director of St. Luke's Hospital, effective January 1.

Doctor Merrill was graduated from Stanford University Medical School in 1934; served his internship at the San Francisco County Hospital and his residency in surgery at the Stanford University Hospitals; in 1936 he was appointed surgeon in the San Francisco Emergency Hospital Service, Department of Public Health, which position he held for two years. In 1938 Doctor Merrill was appointed assistant superintendent of the San Francisco County Hospital, in which position he served until 1940.

A. P. Merrill, M. D.
Medical Director, St. Luke's Hospital

Hospital Protection

JOSEPH TURNER, M.D.

MT. SINAI HOSPITAL appreciates the voluntary offers of assistance on the parts of many of the professional and lay personnel to meet emergency situations at any time and in any capacity apart from regular routine service. Naturally, the hospital officers have proceeded in their planning on the assumption that everyone is ready and willing, when called upon, to do whatever may be needed. Some of our personnel have been called. For the remainder, and for the present, the hospital and its patients will be best served if everyone carries out his own duties efficiently, quietly, calmly, with every economy of time, equipment, and supplies, and does nothing to make others jittery or to take time away from essential work.

The hospital has been cooperating for months with various governmental and central authorities in preparation for this time. The success of these city-wide and nation-wide plans depends largely upon uniformity of methods and standardization of practice and equipment. Just as soon as arrangements to carry out any of these steps are complete, those who can contribute to their operation will be so informed promptly. Until such time, everyone should remain calm, go about his or her regular duties, and leave to the authorized officials the preparation and dissemination of the necessary information and practices.

Dr. Joseph Turner, the Director of Mt. Sinai Hospital, New York, in this series of bulletins to his Department Heads has carefully covered the procedures to be followed in protecting the hospital from the war hazards of bombing, incendiary fires, blackouts, and other dangers. These measures could be adapted to other hospitals for their own protection.

In case of doubt as to what to do in the event of an unexpected emergency, the best practice is still the same, namely, that everyone go to his regular station where he can be found if needed; there he should await further instructions.

According to authentic personal communications from physicians on the scene, much of the harm to patients in hospitals and to others in the early days of the war in Britain came from understandable but hysterical and misguided efforts of some to be helpful. The net result, however, was quite disastrous and more persons were hurt by these misguided efforts than by the early bombing.

There have already been signs of jitteriness on the part of some in the hospital in the past few days—some, unfortunately, from whom better was expected. This makes more important the need for calm and self-discipline.

Air Raids

Bulletin 1

Air raids are uppermost now in the minds of many. Military authorities say they are technically possible although unlikely. If they should take place, the possibilities of heavy raids are remote and the possibility of a hit on any one area statistically small.

There is a double risk in these protective preparations. One is that we may not move fast enough or go far enough. The other is that in our eagerness to help, we may go too fast and too far in wrong directions and then have to retrace many steps. This happened abroad; it has already happened in this country. We shall try to avoid both extremes. For many procedures, we must await further orders and instructions from the central authorities so that all efforts will be uniform and coordinated.

The air raid alarm system has not as yet been worked out completely by the central authorities, and those regulations now in force, and others which will be put in force shortly, may be changed later. It is necessary, therefore, to keep in mind that instructions now issued are tentative in nature, and subject to later change when the central authorities so order.

It is our present understanding that the air-raid alarm system, when installed in full operation, will consist of three parts:

1 An advance notice or an ALERT which

will merely be notice that an air raid is a possibility

2 The actual ALARM which it is planned to sound about ten minutes before any raiders are expected over a given area

3 The ALL CLEAR signal

The Telephone Company is now installing separate emergency lines to this and other hospitals, which will transmit these signals to us. When the hospital receives the first signal of an ALERT, it will be broadcast, if necessary, throughout the hospital area by sounding three short blasts with the new roof whistle; this may be repeated several times. (This signal is of our own choosing and may be changed later if the central authorities so order.) If, later, the notice of an ALARM is received, this will also be broadcast with the roof signal by a succession of long and short blasts. The ALL CLEAR will consist of short single blasts on the whistle for several minutes. These last two are the signals now established by the City authorities. (The authorities may later modify and regulate all local alarm systems.)

To repeat the signals:

"ALERT"—3 short blasts which may be repeated several times

"ALARM"—long and short blasts, repeated a number of times

"ALL CLEAR"—short single blasts at short intervals

What to Do If the Air Raid ALERT is Sounded

The rules are really very simple.

The most important one is to remain calm and to inspire calmness and confidence in others by one's own conduct.

When the ALERT signal is sounded, you should make preparations for a possible later ALARM by doing the following things:

1 Keep patients (if you have a patient section) assured by your own demeanor.

2 Fill bath tubs and deep basins (if any, on your ward, floor, or section) nearly full with cold water. This is to provide water for buckets and other emergency uses if needed.

3. Place sand and any buckets, if provided for your area, in handy places, but not where they may prove to be an obstacle and hazard in darkness.

4 Take the chemical extinguishers off their hooks and have them handy, also not obstructing movement. Do not disturb the fire hose connected to the water stand pipes until and unless they are actually needed; but be sure to know where it is located. Later bulletins will give information about the fire fighting.

5 Carry out and complete any necessary and urgent nursing procedures on patients.

6 Get out-of-bed patients, with bathrobe, slippers and extra blanket, into the dayrooms. This for the ALERT only and to keep them out of the way.

7 Turn off all unnecessary electric lights and gas jets and pilots, bunsen burners, gas refrigerators, toasters, etc.

8 Avoid the use of the telephone, except in emergency.

9 Keep the radio in the day room turned on to whatever channel, if any, is in operation during an air raid. It is likely that all radio communication will be suspended.

10 Do not show alarm. Do not alarm others.

What to Do If the Air Raid ALARM is Sounded

The sounding of the ALARM (which may not have to be signaled) means that raiders are expected in about ten minutes. This refers to any part of the New York Metropolitan area and this area is so large that the chances of this district being involved is very small.

But if the ALARM sounds, do the following:

1 Get everyone away from windows and outer walls and pull down shades, day or night. There is a difference of opinion about opening or closing windows but until final instructions are received, we will close windows.

2 Gather all out-of-bed patients, in bathrobe, slippers and extra blanket, onto chairs in the area around the nurses' station in the ward, and along floor corridors. Leave enough space for free circulation.

3 Bed-patients in wards and back rooms who cannot leave their beds should be moved in their beds to the areas on the wards and floors, near to the inner walls and nurses' desk.

Again, leave enough space for circulation.

Beds in corridors should be along one side only, end to end.

Printed instructions in newspapers to avoid top and lower stories apply to commercial, office and residential buildings, etc. They cannot apply to hospitals which are part of the defense program of the Nation. This was shown in the experience in London, where early attempts at evacuation of these areas in some hospitals during an air raid

were reported as disastrous and more harmful than the bombs. Other general public instructions in the newspapers may not apply to a defense facility like a hospital, which *must function* even in an air raid; in fact, it may have to function under greater stress and to a greater degree than at other times.

With a few exceptions, all wards and floors of our hospital which house patients are separated from the actual roof by at least one story. Even with most of these few exceptions, there is space elsewhere on the floor, part of which is covered by another story. On ward K, for example, only the outer perimeter of the large ward is immediately under the roof. The lowermost floors, of course, cannot be evacuated; they are essential for hospital operation and circulation.

Naturally, stay away from windows and from outside walls.

Obey the orders of the supervisors and authorities.

Use common sense when you are dealing with a problem which is not covered specifically under rules and instructions.

Other instructions will follow later for special areas for blackout, for conduct during an actual raid, for fighting fire, etc.

Special Instructions for Specific Areas

Bulletin 2

Roof wards in the Medical and Surgical Pavilions should be evacuated with the sounding of the ALERT (ALARM). Since roof patients are presumably ambulant, they can go down the stairs to Wards R&S and H.

Private Pavilion and Semi-Private Pavilion patients who cannot leave their beds should be moved in their beds into the corridor and lined up along one side. Out-of-bed patients can be accommodated in wheel and ordinary chairs in the corridor or in the centre service sections.

If a hospital pavilion must be evacuated (and this has been necessary in only a few cases in London) the best way will depend in each case upon the particular building's orientation. Some buildings may be evacuated by using lateral connections to adjoining buildings. In others, the movement must be up or down to a bridge or to a basement area and then to an adjoining building.

Ambulant patients should, obviously, use the stairs, leaving the elevators for those who must be transported in their beds. Stretchers and wheel chairs, by reason of their size and mobility, permit faster movement and greater elevator capacity.

No large hospital in London is reported to have been totally or even largely damaged in a single raid; and in the very remote possibility of real need, there will be assistance available quickly from many sides to help carry out these measures in a particular building.

ONCE AGAIN, IN ALL CASES USE COMMON SENSE AND REMAIN CALM!

Converting Mattresses Into Stretchers

Bulletin 3

A number of the mattress pads in the ward and rooms of the hospital have recently been equipped with a number of canvas loops along each side, through which a pipe or a window pole can be slipped, thus converting the mattress into an emergency 2-man carrying stretcher. Other mattress pads are rapidly being equipped with the same loops, and in time all of the pads will become potential stretchers for emergency use.

As fast as they can be procured, a number of poles or pipes will be provided on all wards or floors. There will not be enough to provide for all mattresses at one time, but there need not be, since stretcher carriers need only remove the pipes or poles from one mattress pad and put them into another to convert it into a stretcher.

The poles will of necessity be no larger than the bed spring, in order that the mattress with the poles may be manipulated sideways on and off the bed.

Air Raid Instructions

Bulletin 4

1 Official air-raid warnings, sounded by sirens (including the hospital whistle, if its continued use will be allowed in the future by the central authorities), will consist, as far as we know at this time, of three different signals.

Types of signals:

ALERT—consisting of 3 short blasts repeated several times if necessary.

ALARM—consisting of a long blast followed by a short blast, repeated for several minutes; this will mean that raiders are expected over the Metropolitan Area in about ten minutes.

ALL CLEAR—consisting of a series of short blasts for several minutes. The Central Authorities may change these later.

2 Above everything else, *keep calm.* Do nothing to create confusion or panic.

3 If you have an assigned job for the protection of patients or any part of the hospital, go to your assigned post. Otherwise go to your regular place of work and be ready to help if, when, and where needed.

4 If for any reason you have no assigned place, go calmly to a designated shelter area in this building. Use the stairs instead of the elevator. Before leaving your room turn off lights in your room and area, pull down shades, turn off your radio.

5 The best shelter areas are located in the center portion of the building. Women should go down to the sixth and seventh floor corridors, men to the fourth and fifth floor corridors.

6 Stay away from outside walls and windows. You may sit on chairs; sitting or lying on the floor is considered safest in an actual raid.

7 While an attempt will be made to keep shelter areas lighted, if an air raid occurs at night, the building may have its electricity cut off. You should, therefore, possess and carry a flashlight, and always keep it in good order near your bed, with your clothing in handy order.

8 Cooperate with hospital authorities and with official air-raid wardens. Obey instructions. Keep calm.

Note particularly:

Irrespective of general air-raid alarms, do not leave your room at any time during the present emergency, day or night, for short or long periods, without doing all of the following:

1 Turn off your lights
2 Draw your shades
3 Turn off your radio

This is necessary in case there is an alarm during your absence, when the presence of a light may interfere with a blackout, for which plans are now being made.

Emergency Equipment at Nursing Stations

Bulletin 5

There will be distributed shortly to each nursing station and to certain other departments and parts of the hospital various items of equipment for emergency use. These will include, according to the needs in each place, a number of candles, candle holders (if enough can be obtained), sand in containers of various sizes, flashlights, poles to convert mattress pads into stretchers, etc. Other items will be provided from time to time as they are ready for distribution.

The likelihood of needing these emergency items seems quite remote, but suitable preparation is being made—just in case.

All items should be placed in accessible places, known to everyone in the ward, floor, department, etc.

Candles and flashlight batteries are best stored in refrigerators; they will function longer and more efficiently when so stored. The candle is intended for use in a real lighting emergency; a candle is a fire danger in itself and should be used with caution and discretion. If enough candle holders cannot be obtained, one can be improvised by permitting a few drops of hot melted candle wax from the lighted end to fall on the center of a large plate and then, before the wax cools, pressing the bottom of the candle into it. A number of candles sufficient to provide for a first emergent need will be distributed. In case of a real emergency, additional supplies will be sent where needed. Flashlights are on order and will be provided later to nursing and other stations.

The sand is for fire protection, not only for possible incendiary bombs, but fire of any kind. Sand is particularly useful in fighting fire due to oil, ether, and similar inflammable materials. Special instructions in the use of sand and other fire fighting equipment will follow in later bulletins.

Air Raid Instructions—Nurses' Residence

Bulletin 6

1 The air-raid shelter areas are in the center corridors of the fourth, fifth, sixth, seventh and eighth floors, as assigned below:

Nurses in Infirmary and thirteen floor go to eighth floor

Nurses on twelfth and eleventh floors go to seventh floor

Nurses on tenth and ninth floors go to sixth floor

Nurses on third floor go to fifth floor

Employees and first floor personnel go to fourth floor

2 At all times, have in readiness near by when in bed:

a—Complete uniform and equipment. All nurses are to dress in uniform.
b—Flashlight.
c—Heavy coat and heavy bed blanket.

Bedroom doors should not be locked when person is in room at night.

3 If an ALARM is sounded, go to the station for duty which may have been assigned to *you* in advance. If you have no special assignment, go to your designated shelter areas as quickly as possible.

4 Before leaving your room, turn off lights in room and bath, close windows, pull down shades, turn off radio. Leave door open—Monitor will close it later.

5 Use the stairs. Elevators are reserved for other purposes.

6 Monitors will be assigned for each floor. Cooperate with them as well as with the official air-wardens. *Obey their instructions.*

7 Monitors will close all doors after occupants have left, fill bath tubs with cold water, take chemical fire-extinguishers off their hooks and have them ready in a designated place, lower window shades in corridors, stairs, hallways, and all rooms on floors not used as bedrooms. Monitors will stay on their own floors as watchers, unless instructed otherwise.

8 *NOTE PARTICULARLY:*

Irrespective of general air-raid alarms, do not leave your room at any time during the present emergency, day or night, for short or long periods, without doing all of the following:

1 Turn off your lights
2 Draw your shades
3 Turn off your radio

This is necessary in case there is an ALARM during your absence, when the presence of a light may interfere with a blackout, for which plans are now being made.

9 Practice drills will be organized soon.

What to Do On a Ward or Floor If An Air Raid Actually Occurs

Bulletin 7

1 The subjoined instructions are tentative and necessarily subject to later revision if necessary to conform with instructions which may be issued by central authorities in the future.

2 In the event of an actual air raid (which may come ten or more minutes after the sounding of the ALARM), all of the measures listed in "What to Do If the Air Raid Is Sounded" should be intensified and completed.

3 Out-of-bed patients should be instructed to lie down in places as far removed from the windows and outer walls as possible. Elevator and stairway shafts should be avoided except where they are needed for movement by personnel. Nurses and other personnel may have to be up and about. Hospital personnel, of course, are here for the protection of the patients and must put the patient's welfare before their own.

4 Obviously, there must be no panic. The patients should be made to understand by word and example that it is important to keep calm and to use arrangements made to care for them.

5 Shelter areas may be designated later for certain buildings, where they can offer better protection than a given ward or floor. In such buildings, ambulatory patients, upon sounding of the ALARM signal, will put on dressing gown and slippers, pick up an extra blanket, and, accompanied by a nurse, proceed to the designated shelter area. Patients in wheel-chairs will follow as fast as elevators can accommodate them. Patients on wheel stretchers and hand stretchers may also follow. But this is to be carried out only if another area is designated—otherwise, stay on the floor. Experience has shown that, unless basement areas are exceptionally strong, there is more risk in crowding many patients into these areas than in remaining in an upper floor.

6 In many cases bed-patients remaining in a ward can be placed under their own bed on a mattress taken from an unoccupied bed near by. This is not practicable for patients in orthopedic apparatus, and in some other circumstances or conditions. But beds of these patients, like others, can be moved away from the windows or outer walls.

7 Patients who must remain in their beds can be protected with mattresses taken from another unoccupied bed and drawn over the patients' bed. The extra mattress can be supported on one or more over-bed tables. The patient is thus protected from flying splinters above and below by the two mattresses without a sense of suffocation. The patient also has full view of the nurses and will be in full view of them. This plan can be carried out even if the bed is in the Fowler position.

8 The precautions described in the preceding paragraphs are not to be carried out on the receipt of the ALERT. Experience in England has shown that there were many disadvantages in disturbing patients, particularly the very ill ones, unnecesarily for every ALERT or even with every ALARM. Many found it practicable to wait for an actual raid to begin as indicated by falling distant bombs or anti-aircraft fire.

Out-Patient Department

Bulletin 8

1 The three out-patient department buildings

present a separate problem of conduct during an air raid.

2 At night, when the buildings are vacant, the major problems are (a) the control of light (which should be arranged before the day personnel leaves), and (b) fire protection. The only lights which should remain at the close of the day are those needed for regular and emergency exits and stairways, as required by law. Steps have been taken to dim these lights so that they may continue to operate during a blackout, for which preparations are now being made and will be covered in a separate bulletin.

3 During the day, the conduct of the department and of its personnel is to be guided by the general instructions in previous bulletins, which are applicable. The sounding of an ALERT or ALARM during clinic hours calls for additional measures as follows:

a—Medical examination of undressed patients will stop and the patient directed to dress.

b—Admission of new patients will stop, although the dispensing of prescriptions, already received, may continue.

c—Patients living near by, who wish to go home, should not be hindered unless the local warden gives contrary instructions. These patients may have families or children whom they may need to look after.

4 Unless an ALARM actually sounds or follows the ALERT, personnel should go on with all other routine duties. With the sounding of the ALARM, however, patients should be congregated in the central waiting corridors on all floors but away from end windows and the elevator shaft. Patients on the fifth floor, which is immediately under the roof and sky-light, will be directed to the four lower floors, using the stairs.

5 Nurses, employees, etc., are to stay on their own floors, to serve as monitors of waiting patients and also as watchers. Male employees on the fifth floor are to remain as watchers after the patients leave.

6 In the OPD annex, the waiting-room areas nearest to the inner walls, away from the windows, are to be favored.

7 In the children's OPD clinic, the central areas on the first floor and basement are to be favored.

8 All employees must learn location of fire-fighting equipment and read directions for use.

9 Injured, if any, are to be brought to the *Reception Ward* for first aid.

10 While patients are to be told to use the stairs, the elevator is to continue to operate to transport old and infirm patients, and to carry personnel up and down as needed. When not in actual use, the elevator is to be stationed on the first floor with the door open and the operator out of the cab but within reach and hearing of the call signal.

Blackout

Bulletin 9

1 Although no official word has been received to prepare the hospital for blackout, many preparatory steps are now being taken in case it becomes necessary. Some idea of the hugeness of the problem may be gained by considering only a few elements. Skylights, for example, number 92, many with special difficulties; windows not now equipped with shades number more than 1100; dimming of stair and corridor lights calls for hundreds of items of equipment. When these preparatory measures are complete, it will be possible to achieve a good blackout with a little practice.

2 A hospital cannot be blacked out like a residence, apartment house, factory, or business building, by merely turning out all lights. Hospitals *must function* during the blackout and *must have enough light* to do necessary work. Experiments already made show that an acceptable blackout can now be achieved in the wards, floors, and rooms by drawing shades and by using night lights built into the walls of the wards and corridors. The nurses' desk light may be used if it is shaded downward. Later, with the installation of additional shades and the completion of other blackout preparations, it will be possible to maintain a good blackout even with the ceiling lights on. However, ceiling lights should generally be limited to dim lights aided by the overbed lamps, properly shaded downward, and screened as much as possible.

3 Responsibility for the effectiveness of the blackout in any area will rest with each department head, supervisor, head nurse, etc., and every one in a position of responsibility for the area. In order that adjoining and overlapping areas will be covered, everyone will be responsible for contact with one's neighbor. A head nurse, for example, will be responsible not only for her own floor or ward, but for stairs, connecting passages to the next adjoining units, both vertical and horizontal. Building supervisors will have to meet other supervisors in adjoining buildings through corridors, bridges, tunnels, etc.

4 Stair and corridor blackout will be accomplished by drawing of shades now being installed and securing the shade cord with a turn around a hook at the bottom of the window. Obviously,

windows should not be open to a wind which may cause shades to flap and negate the blackout.

5 In the ward day-rooms, sufficient light for circulation will be obtained from the small lamp over the aquariums, which may remain illuminated.

6 Venetian blinds are reported from England to afford a satisfactory blackout, if properly used. Wherever installed, they should be secured at the bottom and closed tightly, with the upper edges of the slats pointing inward and upward toward the ceiling of the room, and the lower edge pointing downward and outward to the street; thus no light is reflected outward and upward to the sky. A narrow strip of black paper may be necessary on the window glass margins of some windows to prevent leakage around the sides; this will be installed where needed.

7 Drawn shades and venetian blinds secured at the bottom offer some protection against shattered window glass.

8 Ventilation during a blackout may be difficult in some areas where ventilation is not now provided by exhaust fans and other mechanical means. Where this problem arises, doors and windows may be opened for short periods, but only when all lights (except possibly built-in wall night lights) are turned off.

9 Blackout in buildings not occupied by patients and not necessary for constant patient service, that is, laundry, dormitories, OPD, etc., may be achieved by merely turning out all lights, except in corridors and stairways. If and when blackout conditions prevail, rooms and departments should not be left unoccupied at night without advance blackout preparation of all windows and lights.

10 When preparations for blackout have been completed, tests will be held from time to time, and inspection carried on outside of buildings by department heads and others responsible to determine its effectiveness. Light leakages, as they are detected, are to be corrected. Special problems are to be brought to the attention of this office.

11 Some buildings and areas will have to be handled in a special way. Entrances, for example, will need special treatment. These will be dealt with in other ways.

12 These instructions are general and tentative at this time and do not attempt to cover the whole problem; none of these measures are to be carried out for the present until or unless we receive orders to work under blackout conditions. In time, the state and local defense authorities may develop general rules which will require modification of these advance instructions.

Fire Protection

Bulletin 10

1 For all-over fire protection, organization of fire crews and roof watchers is now under way; these groups will receive special instructions in due course. Additional fire-fighting equipment is also being acquired.

2 This memo therefore is limited to a general description of fire hazards during an air raid from the use of incendiary bomb, which are usually small (2 in. by 14 in.) and weighing as little as 2 pounds. When detonated, the contents combine to create a fire of an extremely high temperature which cannot be extinguished by ordinary means. This intense heat can penetrate certain kinds of roofs, ignite inflammable material on and beneath the roof, and produce a fire that is very difficult to extinguish if it gains headway. The hospital roofs are generally of such construction that they will successfully withstand this danger; yet our best protection against fire from incendiary bombs will be good roof observation and prompt attack. The chief danger with incendiary bombs is the possibility of a large number of fires occurring simultaneously in many areas. Anyone observing an incendiary bomb falling on or in a building when there may appear to be no watcher, should convey this information to the telephone operator or by other quick means to those who can act.

3 While the greatest fire danger from an incendiary bomb is on the roof (and on an upper story if one penetrates), a bomb may occasionally enter through a window if it falls at an angle, misses the roof and hits a window instead of a wall. For this reason inflammable waste should not be permitted to accumulate in any part of the hospital which may be struck by an incendiary bomb from above or from the side.

4 Information from England by some who have participated in fire protective work during incendiary air raids is that the first minute after the fall of a bomb is the most important. It is often possible, in this short time before it generates full heat, to kick it or pick it up on a shovel and throw it off a roof or through a window to the street where it can do no harm. In the first few seconds (perhaps 15), before the bomb begins to sputter and generate heat, it can actually be picked up by the tin tail and thrown away. While there may not be much opportunity to choose where to throw a bomb, one should not be thrown, if it can be avoided, on to the roof of an adjoining building. When dropped to the street pavement, it will burn itself out harmlessly or will be attacked by street wardens.

5 Unless an incendiary bomb is attacked

promptly within a minute of its fall, it will generate too much heat to approach closer than 30 feet. To get closer will require an approach in a crawling or prone position behind a heat protective screen, such as a table or chair and, if necessary, with a wet blanket over one's back and head. The bomb may then be attacked with

a—Water—in a fine spray from a garden hose attached to faucets with which many roofs are equipped,

b—Water—in a fine spray from stirrup pumps, wherever these will be provided in the future,

c—Water—in a full solid stream from the 2-in. fire hoses which reach all of our floors and most of our roofs.

d—Sand—which is one of the simplest methods.

6 A bomb *sprayed* with water will not be extinguished; the oxygen in the water spray only speeds the burning so that the bomb is consumed in 2 instead of 15 minutes. Furthermore, the spray wets down the surrounding area and restricts the spread of fire. If too much time has elapsed before approaching a bomb, it may be necessary because of the intense heat to project the spray from a distance of 30 feet. The garden hose is easily used with its spray nozzle; the spray is directed around the area of the bomb in order to wet it down and reduce the local fire, and also upon the bomb until it burns out.

7 If the city water supply fails, it will be necessary to spray water with other means such as a stirrup pump. These work from previously prepared cans or pails of water and require two or three persons to operate; one with the hose, another with the pump, and a third, in some cases, carrying buckets of water. The standard stirrup pump nozzle is of a double type, by which, with a flick of a lever, the solid jet of water is converted into a fine spray. About 6 gallons (2 pails full) of water are generally required to burn out a bomb and extinguish a beginning fire. It is planned to place stirrup pumps where needed as soon as they are again available on the market.

8 While one must not douse an incendiary bomb with a jet of water or a large quantity of water in a pail, or with wet sand, because of the danger of exploding the bomb and spreading molten masses 50 to 60 feet away, a *full and continuing* stream of water from the standard 2-in. fire hose (in all corridors and on some roofs) is effective even if it causes a bomb to explode and scatter. The same stream can deal with any sputting effect and follow the various fragments and consume them all in less than a minute.

9 With the *sand* method, an attempt is made to smother the bomb with sand and remove it to a safe place. A 10 to 15 pound container of sand is dropped immediately on the bomb if one can approach close enough. If heat is already generated, the same quantity of sand is dropped on the roof or floor as close as possible, and with a long-handled shovel or other appliances is pushed around and on top of the bomb. In many cases it can then be picked up in the long-handled shovel and dropped into a bucket containing some sand. The entire bomb is then covered by sand on all sides and the bucket containing the bomb carried at the end of the shovel to a safe place. The sand method cannot be used when a bomb becomes too hot or causes a fire too extensive as to prevent close approach.

Sand will be provided soon on the roofs and wards in cans, bags, and small containers holding 10 to 15 pounds each, a size best for easy handling by hospital personnel, particularly nurses. Shovels, buckets, and other equipment will be provided on roofs to be used with the sand. Special instructions will be given later to those who will operate this equipment.

10 Soda-acid extinguishers (of which there is one hanging in every ward and which is turned upside down to function) can be used if the nozzle is covered with a finger to convert the jet into a spray. Two extinguishers are usually needed for a single incendiary bomb.

11 Carbon tetrachloride extinguishers (of which there are a few in certain places in the hospital, laboratories, kitchens, electrical motor rooms, etc.) should not be used, since carbon tetrachloride reacts with the incendiary bomb to generate poisonous gases.

12 CO_2 extinguishers (like the cylinders on oxygen tents) are of no avail on these bombs.

13 If an incendiary bomb lands in any part of the hospital where there is a fire alarm, this should be sounded. Everyone should learn the location of the alarm on the ward or floor.

14 A general fire due to this or other causes should, of course, be fought like any other fire, by using all available fire-fighting equipment.

15 Finally, the Fire Department states in its circular:

"a—There is nothing to be afraid of; the average person can extinguish a small bomb with little equipment.

"b—Incendiaries present no problem to Fire Department in quality of fires, but only in quantity.

"c—Citizens themselves must fight fires."

Coordination of Local Hospital Facilities for War Emergency in the Pittsburgh Area

ABRAHAM OSEROFF

HOSPITALS, by the very nature of the organization, are geared constantly to meet emergency conditions upon call. This need for readiness to meet any call—day or night, holiday or otherwise—is intimately woven into the ethics and practice of hospitals and those who personnel them. We are justified, therefore, in assuming that the accredited hospitals in Allegheny County, public and private, are ready now, as they have been ready always, to meet any ordinary emergency call upon their service. The gas explosion on the North Side some years ago burdened one or two hospitals in the immediate area of the explosion temporarily. If those casualties had been distributed over the capacity of the hospitals in a wider geographic area, the impact of that extraordinary need would hardly have been felt beyond emergency burdens normally carried by our hospitals.

The Problem

Our problem has been, therefore, not the creation of facilities, but rather the development of a plan which increases the flexibility of present facilities so that extraordinary demand under war conditions, due either to direct bombing or sabotage, or accident during blackout, will be promptly and effectively met just as ordinary emergencies are met in normal times.

Survey of Hospital Facilities

To serve this purpose, we have made a careful survey of all hospital facilities in Allegheny County together with the possibilities for expansion—both through use of existing facilities and through the addition of auxiliary facilities—which will be needed in the event of emergency.

Our survey includes the following twenty-five voluntary general hospitals and seven governmental (municipal, county, state and federal) hospitals:

The Author

● **Abraham Oseroff, Director of Montefiore Hospital, is Chairman of the Facilities Division, Public Health Section of the Pittsburgh, Pennsylvania Defense Council.**

Voluntary General	*Governmental*
Allegheny General	Home & Hospital, Woodville
Allegheny Valley	Hospitals & Homes, Mayview
Belvedere	Leech Farm
Braddock	Municipal
Children's	State Psychiatric
Columbia	Veteran's
Eye & Ear	Marine
Homestead	
Shadyside	
Elizabeth Steel Magee	
McKeesport	
Mercy	
Montefiore	
Ohio Valley General	
Passavant	
Pittsburgh	
Presbyterian & Woman's	
St. Francis	
St. John's	
St. Joseph's	
St. Margaret Memorial	
Southside	
Suburban General	
Valley, Sewickley	
Western Pennsylvania	

For each of the above hospitals the study provides us with detailed figures on present bed space, number of beds set up and immediately available, number of additional emergency beds available, facilities for first aid and casualties within the hospital buildings, the availability of plasma or whole blood supplies at each of the hospitals, stocks of tetanus antitoxin on hand, registration of blood donors in each hospital and the available x-ray equipment both stationary and mobile.

For purposes of simple and rapid summary, the following figures—which are conservative—show the facilities in Allegheny County:

Voluntary Hospitals (Only)

I

PRESENT FACILITIES—*In-Patients*

Total Bed capacity (excluding bassinets) . . . 5,876
Average Number Occupied 5,281

Number Available Immediately for Emergency 595

II

In these hospitals, facts show that we may safely depend upon the prompt discharge of 20 per cent of the in-patients within the hospitals at any one time, as convalescents, to their homes where they can receive satisfactory medical care. The operation of our Hospital Service Association, which encourages earlier admission to hospitals, at the same time increases the percentage of patients who are less seriously ill and who may, therefore, be discharged more promptly. Evacuation of such patients will immediately release for emergency use at least . . . 1,000 beds

III

EMERGENCY FACILITIES—*In Hospital Buildings*—ONLY

Beds which can be set up in available space (not now used for beds—such as: Nurses' classrooms; conference rooms; auditoriums and solaria; libraries; lobbies and lounges and rooms which can be vacated in nurses-residences—will provide for . . . . . 1,539 beds*

This then—in the event of emergency—gives us immediate access to . . 3,134 beds

IV

In addition to the above, in our *governmental hospitals* there are available for emergency purposes no less than . . . . . 940 beds

In other words, present facilities and hospital facilities immediately available, will allow us to handle more than . 4,074 patients *in the in-patient departments* in the event of war catastrophe.

V

EMERGENCY FACILITIES—*In Auxiliary Buildings*

The figures thus far presented do not take into consideration auxiliary buildings in the immediate neighborhood of hospitals which can be used as hospital facilities and directed from main hospital buildings. Such buildings are:

Clubs
School buildings
Y.M.C.A.'s, Y.W.C.A.'s and Y.M. and W.H.A.'s and other Community Centers
Meeting halls
Hotels
Churches

Our survey of these buildings, which is now in process, will give descriptive material and facts showing the adaptability of the particular building for the use intended, its location, its dimensions and floor space, the availability—within the building—of basic facilities needed in the care of patients such as kitchens, laundry, light and power, potential bed capacity, type of patient to whose care the particular building will be assigned.

There are many such buildings in Pittsburgh, in the vicinity of hospitals, which can be adapted for satisfactory use, providing beds and other hospital equipment is available through the Government or other sources. The major hospital job will, of course, be done in hospital buildings, while to these auxiliary buildings will be transferred patients for whose care it is not essential to have at hand the elaborate facilities of the fully equipped hospital.

Our facts include information on hospitals and allied institutions—in sections at a distance from the industrial concentration of Pittsburgh and Alleghany County, so that in event of major disaster or the destruction of hospitals in this immediate war industry area, hospitals here may be transformed into casualty clearance hospitals and patients in maternity sections, pediatric sections, and others hospitalized who can be moved, evacuated to institutions in rural counties which would serve as base hospitals.

VI

EMERGENCY FIRST AID FACILITIES—*In Hospitals*

Present emergency space in the various hospitals, and immediately adjacent space, provide for treatment, *at one time,* of approximately . 1000 patients

Unequipped quarters in these hospitals, which can be converted into emergency first aid facilities, will take care of an additional . . . . . 1000 patients

So that—with minor reorganization and added equipment—hospitals in Alleghany County are ready to handle, *at one time,* for first aid, approximately . . . . . 2000 patients

*In order to put this space into full use, 861 additional beds will be required because hospitals now have on hand 678 beds for this additional space.

VII

First Aid Posts

Our survey shows the location, personnel, and facilities of industiral plants, hospitals, and clinics. The personnel in these form the nucleus of organization in their particular localities for emergency first aid posts. These industrial hospitals are reorganizing themselves into units which will get into action immediately upon emergency in their plant, for operation at a previously designated point some distance removed. Plans for space and facilities for their work are being developed at some distance from the plant in which the group is now located so that they will be ready to function in the event of catastrophe in that particular plant. If a mobile first aid unit is more practical, it is expected that trucks—constructed for this purpose and properly equipped—will be available.

VIII

Casualty Stations

One building which is now used exclusively for clinic service and five large hospitals have space and equipment which can be devoted immediately to service as casualty stations. This is true—both because the equipment here available is ideal for such purposes and secondly, because these facilities are so located that, geographically, they serve industrial areas at pivotal transportation points. These facts are woven into the general hospital organization picture so that, in the event of catastrophe, prompt utilization will be made of these facilities for casualty purposes.

IX

Industries in Alleghany County

A complete survey was made of all industries in Alleghany County employing one hundred or more persons. These industries are catalogued under the following headings:

- Chemicals, petroleum, coal and allied products
- Glass, stone and clay products
- Iron, steel, non-ferrous metals and their products
- Machinery
- Transportation equipment
- Railroad and utility repair shops and power stations
- Miscellaneous

These industries are coded by key number, by address and the number of employees in each plant as of November 30, 1941. Hospital and casualty facilities are being planned in accordance with potential needs by these industrial concentrations.

X

Transportation

A survey is being completed, the facts of which will guide us to central transportation control for carrying medical and nursing personnel to the scene of disaster and for carrying the injured, through rescue squads and stretcher bearers, from the point of catastrophe to first aid posts, dressing stations, casualty stations and hospitals. Centralization of such control is absolutely vital. Our facts will show clearly the availability of ambulances at each hospital, the distribution of police ambulances, the location of private ambulances, the availability of station wagons and similar equipment which can be utilized for the transportation of patients and persons needed at disaster points. These facilities are being catalogued by location and telephone and hospital zone and made available upon call for *assignment to a specific point from the control station.* Vehicles specifically designated for ambulance purposes will be expected to have complete outfits as generally used in ambulances.

XI

Master Maps

Master Maps for Alleghany County (including the City of Pittsburgh) and the City of Pittsburgh seperately have been completed showing the following:

- All accredited hospitals—public and private
- Industrial hospitals
- Clinics—apart from hospitals
- Homes for aged, convalescents, children, etc.
- All war or related industries employing 100 or more persons
- Suggested sites for casualty stations
- Suggested sites for medical depots, for storage of necessary hospital and field service equipment, such as: hospital beds and mattresses, collapsible cots, blankets, stretchers, medical and surgical supplies and drugs
- Emergency medical squads in each hospital having such squads

To these maps—as soon as information is available—will be added:

- Control center
- Rescue squads
- Police and Fire Department stations
- Health Department stations

XII

Divisional Maps

Divisional Maps are being prepared showing separately:

- Transportation facilities—for casualties; for medical and nursing personnel

Hospital ambulances
Police ambulances
Private ambulances
Farm or station wagons

Lines of transportation connecting larger industries to hospitals and casualty stations

Location of first aid posts, casualty stations and hospitals

Our general statement is predicated upon instructions and regulations which we expect from governmental sources. Until these are available, instructions to our personnel cannot be altogether definite. In the event of catastrophe, it is assumed that initial announcement will come out of the local control center through which there will be immediate transmission of information to all who are expected to take part in the rendering of service.

If practical, hospital switchboards will be tied into police telephone and radio circuits, possibly through a central medical aid board—the hospital switchboard assuming responsibility for reaching members of its medical and nursing staff and other personnel—this in addition to the announcement of the emergency coming over police radio and other radio outlets.

At first aid posts, at time of disaster, it will be important that a qualified person from the central medical organization be immediately available for prompt and intelligent distribution of casualties to dressing stations, casualty stations, and hospitals, after they are tagged for identification.

The centralizing of information and control of distribution under persons competent to do the job will be vital.

In the mapping of emergency aid facilities there is clear indication of the location of physicians' buildings which are expected to serve as effective dressing stations. There are three such buildings in the Oakland area; there is one such building in the Triangle; there are two such buildings in East Liberty; there is one such building in Wilkinsburg. Other buildings in other sections in which considerable numbers of doctors have their offices and equipment, can well be made available under proper control and proper direction.

Discharges from these dressing stations will be either to the patients' homes or to hospitals for further care.

It is assumed, of course, that if the catastrophe is not too far-reaching, patients will be taken directly from the disaster point to hospitals under proper distribution so that no one hospital is overloaded.

Medical Responsibility

It is understood, of course, that in any organizational set-up for emergency purposes, all medical services will be the responsibility of the medical staffs of each hospital cooperating and doctors working at the scene of the disaster under such medical supervision as will be provided.

Nursing

While it does not come specifically within our section to plan nursing provision in the event of disaster, it is important that graduate nurses not on hospital payrolls be so catalogued that they may be readily assigned to points of greatest need.

Government and Red Cross

While the formulation of the hospital facilities for emergency needs indicates the availability of space and equipment, it is understood, naturally, that beyond a certain point hospitals will not be able to provide equipment in the event of large-scale catastrophe. It is therefore important that either the Government or the Red Cross indicate to us what hospital equipment can be stored here for immediate availability in case of need.

Identification of Personnel

Persons officially associated with emergency service in connection with hospitals are to be provided with identification so that they may readily reach the stations to which they are assigned and which will pass them through police lines where necessary at points of disaster. In the event of disaster, no cars are to be admitted to the immediate vicinity of hospitals or casualty stations except those carrying proper insignia.

The Department of Public Health will be expected to make available ample quantities of tetanus antitoxin.

To guide our individual hospitals in effecting the necessary organization within their institutions for emergency needs, a number of committees are at work—some of which have already reported, others will have their reports completed by the end of the week. These reports will be transmitted, promptly, to our hospitals so that the plan of organization may be definite and reasonably uniform.

Committees

Among these committees, under the Facilities Division, are the following:

I *Committee on Blackouts* — Dr. George L. Wessels, superintendent of the Allegheny General

Hospital, chairman. Additional members on this committee are: a hospital maintenance engineer; a housekeeper; and two hospital administrators.

> Planning the blackout is a highly technical undertaking. It has many facets and many phases. Incomplete planning, unintelligent planning, may do more harm than good and, indeed, be destructive. It is therefore the work of this Committee to tell us, specifically, exactly what each of the hospitals is to do NOW if and when blackouts are ordered.

II *Committee on Detailed Survey of Auxiliary Buildings*—Mark H. Eichenlaub, superintendent of the West Penn Hospital, chairman. Working with Mr. Eichenlaub are: a hospital maintenance engineer; the head of a nursing department; the head of a nutrition department; the head of a housekeeping department and two hospital administrators.

III *Committee on Equipment and Supplies*—Miss Mary B. Miller, superintendent of the Presbyterian and Woman's Hospitals, chairman, and Philip H. Lantz, superintendent of the Children's Hospital. This committee already has much material and will inform us on the availability of beds, cots and other needed additional equipment as well as necessary medical and surgical supplies. They will list the reserves available in hospitals; stocks of beds and mattresses available in warehouses and other supplies in the hands of distributors in this area; production available in our local factories under priorities; beds, cots and blankets held by Boy Scouts, Y.M.C.A.'s, church clubs, and camps.

IV *Committee on Protection of Hospital Buildings*—William A. Hacker, superintendent of the McKeesport Hospital, chairman, and Tom Morris, building superintendent of the Allegheny General Hospital, and two other hospital engineers. This committee will prepare detailed instructions on the handling of lighting for operating rooms, delivery rooms, emergency operating rooms and x-ray departments during blackouts; the handling of our boilers and other power equipment; control of ventilation during gas attacks; fire protection in the event of incendiary bombs striking hospitals.

V *A Committee Has Effected an Emergency Chaplains' Organization*—representing the Protestant, Catholic and Jewish faiths, whose purposes—in addition to their religious duties—will be to alleviate hysteria and create and maintain morale among the casualties and particularly among the families and friends of casualties.

THIS WORD OF WARNING MUST BE OFFERED: We cannot anticipate with exactness what the actual need will be at any particular time, nor can we see what circumstances we are apt to face and for that reason we are not to interpret the excellent facilities available for emergency in Allegheny County in too optimistic a fashion. There is much work we must do to make certain that these facilities and the necessary equipment will be in functioning order upon call. We must make certain, too, that, in the event of catastrophe beyond the ability of this urban area to handle, the hospitals in rural counties are ready to take on their added responsibilities.

The results of this study provide only the first step leading toward the job which is to be done.

* * *

SUPPLEMENTS

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Organization Within the Hospital for War Emergency

SECTION II
Instructions to Hospitals Covering Various Steps to Be Taken to Effect Organization

SECTION III
Hospital Facilities—Location—Code Number—Description

SECTION IV
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SECTION V
Casualty Stations:
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- Location
- Personnel

SECTION VI
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SECTION VII
Medical Field Units:
- Organization and Equipment
- Hospital at Which Centered
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SECTION VIII
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SECTION XI
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Converting Hospital Tunnels Into Air Raid Shelters

Air raid shelters for more than 5000 patients and employees at the Colorado State Hospital in Pueblo, Colorado, appear to have been unwittingly provided by the hospital administration when they built concrete tunnels between the scores of buildings on the grounds that cover several hundred acres.

Tunnels have been constructed as the hospital has expanded, to provide passageways for carrying supplies and patients in stormy weather and to concentrate water, gas, electric, telephone, steam and other service lines in one large conduit where repairs can be made quickly and easily.

Now, with war at America's shores and with the Nation preparing for bombing which the citizens hope never occur, hospitals are facing the problem of how to care for their patients in case of air raids. That is true especially in defense and industrial areas, such as Pueblo. A few miles from the Colorado State Hospital is the largest steel mill in the West, busy on defense orders. Just east of the city will be built a $23,000,000 ammunition dump for the army.

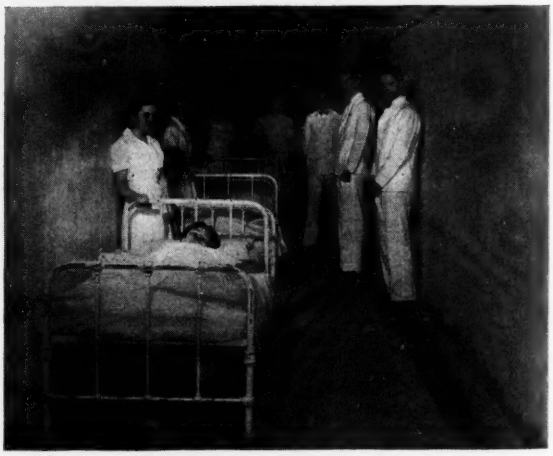
Buildings cover several hundred acres and are separated by expanses of landscaped grounds to give patients plenty of sunshine, air, and pleasant surroundings. Dormitories are designed to care for only 100 patients, a statutory provision. Thus, even in buildings the patients are in fireproof structures widely spaced.

Tunnels, being long, narrow and mostly away from buildings, would be remote targets. Evacuation of patients into tunnels could be rapid, because every dormitory basement opens into a tunnel and only 100 patients would be passing into each entrance.

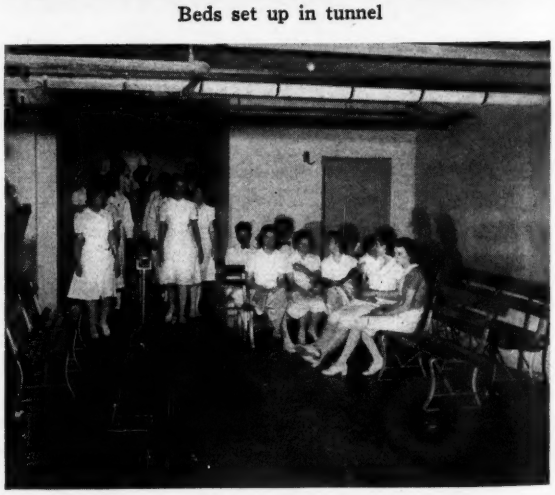
Underground corridors are seven feet wide and nine feet high. They are concreted, are dry and are warmed from the overhead steam mains that carry heat from a central plant. They are lighted and ventilated.

Placed end to end, about 3500 beds could be put in the more than four miles of tunnels. Basements under some buildings and tunnel stations could be used for other beds. Hundreds of benches that patients use on the grounds could be placed along the tubes.

Looking down a long tunnel, with aides spaced at intervals for comparative purposes. Note service lines overhead.



Beds set up in tunnel



Aides entering a subway station from building above. Stations have room for additional beds, or benches where folks may read and sew

Performance of Clinical Procedures by Nurses in Small Hospitals

REGINA H. KAPLAN, R.N.

IT is a far cry, in the nursing profession, from 1830 to 1941. Such strides have been made, so much higher have become the standards of entry and accomplishment, so much more rigid the curricula, so much deeper and broader the knowledge imparted, that a glimpse of one of those early training schools would vary so completely from the picture of our modern educational units, as to seem part of a different process altogether. But every mountain must be built up, stone by stone, layer by layer from the valley floor.

As far apart as early nursing days are from the present, just as widely separated are the processes by which probationers are moulded into competent registered nurses in the small and the large hospitals. The fundamental requirements laid down by the American Nurses Association and the National League of Nursing Education are the same. And the profession recognizes the certainty that the problems of the small hospitals are not just pigmy editions of those of the large. Duties which would be considered only within the province of the intern or chief of staff in the large hospital, automatically and of necessity fall on the shoulders of the nurse on duty in the small institution. This is inevitable. It is the necessary and humane outgrowth of a limited staff. Over and over, crises will demand that the nurse fill the breach until the arrival of the physician. In preparing herself for such eventualities, the nurse in the small hospital encounters practical experiences, develops rapid and sure skills, disciplines herself to quick perception of certain diagnostical processes which her counterpart in the large hospital would never be called upon or even allowed to employ.

Efficiency Demands a Different Set-up for Nursing in the Small and Large Hospital

To grasp the truth, the inescapableness of it, it is necessary to review the wide discrepancy in the set-up of small and large hospitals. In the mammoth institution, there is an individual or group of individuals delegated to each single type of work. The highest efficiency dictates that this shall be. As long as each man sticks to his post, performs his set duties meticulously, so that each cog may fit into the next, without the slightest question of any unit getting out of alignment, just so long the machine will run well. But should any tiny bit of mechanism fall out of place, by the fraction of an inch, the machine flies apart and disintegration follows.

In the less-than-200-bed hospital, all this is different. Multiple obligations are inevitable. Here parts must be in a sense interchangeable. Unity requires that each unit must know something of the inner workings of each other unit, and work accordingly. In a period of crisis, the nurse alone may be on the spot to administer life saving first aid. If her experience has not made her equal to this responsibility, then she is not fitted to small hospital nursing duty.

Florence Nightingale must have been thinking of unity of well rounded skills when she said in her text:

> "Merely looking at the sick is not observing. To look is not always to see. It needs a high degree of looking to look so that looking shall tell the nurse right."

Thus it is with the nurse in the small hospital. She must look and interpret what she sees for she has no intern to do her seeing for her. It is in the actual bedside care of her patients that she learns to develop inner wisdom which is necessary to fit her for her duties in the small hospital. It is not enough that she recognize symptoms, such as shock and hemorrhage, she must be able to apply immediate first aid, meanwhile notifying her physician, and having ready for him on his arrival such other medications as are indicated for further treatment. In the large hospital in-

The Author

● **Regina H. Kaplan is Superintendent of Leo N. Levi Memorial Hospital, Hot Springs National Park, Arkansas.**

Presented at the American Hospital Association Convention, Atlantic City, 1941.

terns and the resident would have probably taken charge of the situation.

The Nurse in the Small Hospital Must Have a Broad Concept of Hospital Care

The standard course of training for all nurses, as set up by the American Nurses Association and the National League of Nursing Education, can be counted a uniform one. But for the nurse who is privileged to serve in the small hospital, procedures which she carries out, whether clinical or otherwise, are frequently products of planning and experience beyond and above the prescribed curriculum.

Unity, rather than uniformity, marks the well rounded program of the small hospital. Understanding, cooperative, intelligent working together of whole staff, not in uniformity, where each sticks to his groove come what may, but in unity where each individual is so at one with the whole that the least important part may supplement and help to round out the whole of another and to insure no break in the completed circle. If unity is not the by-ward, then the circle is sure to be broken, with the patient the victim of the catastrophe.

The patient is not interested in hospital politics, whys and wherefores of rules and regulations. He is interested only in getting well in order to return to his family and community. Just who carries out the clinical procedures interests him not at all. His confidence lies in the nurse whom he sees most frequently. Why should it ever occur to him that she is not competent and capable to perform any clinical procedure in his case? His faith lies in her completely. It is sure to be there if her loyalty, cooperation, and understanding of the unity which her duties demand, have become part of her very nature.

Selecting Nurses for Small Hospitals

In selecting nurses for small hospitals it is always necessary to choose those who have been trained "between the lines." Beyond uniformity of training must come that willingness to become one in a unity of purpose. There must be compliance to the uniformity of training, yes. The public demands it. But for the nurse in the small hospital there must be a unity so broad that it includes an instinctive oneness with the problems of the individuals who come under her care, as well as the maladies of impersonal patients. This is not only a community good policy in the small hospital it is excellent therapeutics.

If a nurse is interested in small hospital duty, she seeks the arteries that lead off from her routine training in order to nourish them with further understanding and practical experience. Only thus may she become capable of carrying out the duties which will be hers.

Complete departmentalization of clinical procedures in the small hospital is impossible. Unity cannot always stand fore-square with day-by-day uniformity of every function.

It is not my intention by any manner of means, or by sign or word to belittle, criticize, or censure a nurse who has been trained in a large hospital. But my many years of experience with small hospitals both in training nurses and in accepting outside nurses for special work, have caused me to believe firmly that the nurse trained in the small hospital is far more acceptable for our needs. She has a deeper understanding of the duties she will face, she is more willing to give completely of herself than the nurse schooled to the luxury of the large hospital, with others assuming almost all responsibilities for her.

Therefore: The performance of certain clinical procedures by nurses in small hospitals can best be accomplished by nurses trained in small hospitals where routine duties include any and all duties necessary for the welfare of the patients.

Fred M. Walker Resigns as Administrator of Charlotte Memorial Hospital

Fred M. Walker, who has been administrator of the Charlotte Memorial Hospital, Charlotte, North Carolina since 1940, resigned effective February 1.

Mr. Walker accepted the appointment as administrator of the Charlotte Memorial Hospital, Charlotte, North Carolina, after having served as administrator of the Duval County Hospital, Jacksonville, Florida, for fourteen years. In addition to his duties as administrator, Mr. Walker has done some especially fine work as a hospital consultant.

Mr. Walker's successor as administrator of Charlotte Memorial Hospital has not been selected. Dr. Allan Tuggle, radiologist of the hospital, has been given a temporary assignment as acting administrator.

Equipment and Operation of Emergency Medical Field Units

The Medical Division of the U. S. Office of Civilian Defense has issued the second bulletin of its official series of instructions for emergency medical care of the civilian population in war emergencies, "Equipment and Operation of Emergency Medical Field Units." The bulletin explains the duties of local chiefs of Emergency Medical Service, describes the operation of Casualty Stations and First Aid Posts and lists the minimum equipment for Emergency Medical Field Units, organization of which was described in the first bulletin, "Emergency Medical Service to Civilian Defense," issued in August 1941.

The Office of Civilian Defense recommends that all defense councils adopt the plans as set forth in these bulletins. Uniformity will make it possible for adjacent communities to pool or exchange their resources, and it is also desirable because of priorities in materials and manufactures. All equipment recommended conforms with that of the Medical Department of the U. S. Army, the bulletin points out.

The field casualty service projected by the Medical Division of the Office of Civilian Defense will be made up of Emergency Medical Field Units derived from hospitals in the community. These units will work in Casualty Stations set up at a predetermined site some distance from the scene of a distaster. The Casualty Stations will care for persons with minor injuries and those suffering from nervous shock or hysteria until they may return to their homes or to temporary shelters. An important part of the work of these stations will be to keep records of patients treated.

From the Casualty Stations medical teams may be sent closer to the disaster to set up First Aid Posts in which severely injured persons may receive emergency treatment before they are sent to hospitals. Here casualties will be classified according to the seriousness of the injuries and directed to Casualty Stations or hospitals as their condition requires. The instructions emphasize the importance of tagging all casualties immediately, giving all possible information as to their identity, their injuries and the treatment given. Equipment for the medical teams who will work in First Aid Posts has been worked out to provide in easily portable form the essentials for emergency treatment. Replacements will be furnished by Casualty Stations, which will have on hand larger stores of supplies.

To facilitate the sorting of casualties when they arrive at hospitals, the following symbols have been devised to be drawn on the forehead of injured persons:

U—Urgent—requiring priority attention

TK—Tourniquet

T—Indicating tetanus antitoxin has been given

H—Internal hemorrhage

M¼—Indicating Morphine gr. ¼ or

M½—Gr. ½ given

Casualty Stations will have on hand bulky equipment that cannot be carried by the first aid groups, such as traction splints, stretchers, collapsible cots, blankets and a reserve supply of drugs and dressings which may be issued to first aid posts as needed.

A tag has been designed which includes information as to identity and provides space for recording diagnosis, treatment, and disposition of the case. The tag is to be filled out at the First Aid Post and will be attached to the patient before he is transferred to a hospital.

The local Chief of Emergency Medical Service, who functions under the administrative authority of the local director of civilian defense, has fifteen specified duties, explained in detail in Bulletin No. 2. Briefly, these officers' duties will be:

Integrate official and voluntary organizations which are to participate in the medical activities into the comprehensive community program.

Help organize Emergency Medical Field units as described in Bulletin No. 1.

Select sites for Casualty Stations.

Make a map locating hospitals, Casualty Stations, storage depots.

Plan transportation service for casualties and for medical personnel.

Cooperate with local defense authority in arranging drills of Emergency Medical Field Units in cooperation with other civilian defense units.

Make inventory of hospitals and other buildings in adjacent territory to which patients might be evacuated.

Assist in planning courses for volunteers in medical activities.

Stimulate recruitment of volunteers for the nurses' aide courses of the American Red Cross and help in placing these aides in hospitals, clinics, health departments and field nursing services.

Assist the local Civilian Defense Volunteer Office in training and placement of volunteers in health and medical agencies.

Stimulate and guide first aid training through the Red Cross and other agencies.

Stimulate and guide organization of First Aid detachments in industrial plants and similar establishments.

Collaborate with health authorities in protective measures against sanitary hazards.

Collaborate with authorities in plans for evacuation, with particular attention to medical needs of the population.

Keep the community and the participating groups informed of plans and activities.

Technical Council of the Health Supplies Branch of the OPM

Because of the importance of maintaining good health among the civilian and military population of all the countries fighting the Axis powers, the Office of Production Management authorized the setting up of a committee of health specialists from military and civilian life to ascertain the requirements of such a program and then to see to it that the supplies are produced and made available.

The committee, known as the Technical Council of the Health Supplies Branch of OPM, is headed by William M. Bristol, Jr., chief of the OPM Health Supplies Branch, and include the following:

Dr. James A. Crabtree, executive secretary of the Health and Medical Committee, Office of Defense Health and Welfare Services

Colonel C. F. Shook, assistant chief of the Finance and Supply Division, Office of the Surgeon General, United States Army

Captain Carlton Andrus, chief of the planning division of the Bureau of Medicine and Surgery, United States Army

Major Clifford V. Morgan, chief of the Commodities Division, Office of the Under Secretary of War

Fred J. Stock, of the OPM Health Supplies Branch, is secretary

It will be the responsibility of the Technical Council to ascertain the health supply requirements of the Army, Navy and civilian population of the United States as well as the Lend-Lease countries; make recommendations for the production and distribution of such health supplies; insure the securing of necessary materials for the production of such supplies; and make recommendations to OPM concerning the production and distribution of items (such as garbage pails and screens) not classified as health supplies but essential for sanitation.

The Council will act in an advisory capacity and make recommendations concerning:

1 The securing from Commodity branches of allocations of raw or essential materials or products that are, in the opinion of the Council, essential for the maintenance of health.

2 Approval of requisitions and purchases for health supply items for the Army, Navy all Federal agencies, lend-lease countries, American Red Cross, and other war relief organizations.

3 Issuances of priorities for commodities that are not specifically under allocation.

4 The relative degree of necessity of all items classified as health supplies and the allocation of available materials for production on the basis of such determination.

Mr. Bristol said health supply requirements cut across the whole defense program and it is vital to see to it that supplies necessary for health are made available even when they involve critical materials.

The Provident Hospital Catastrophe Unit

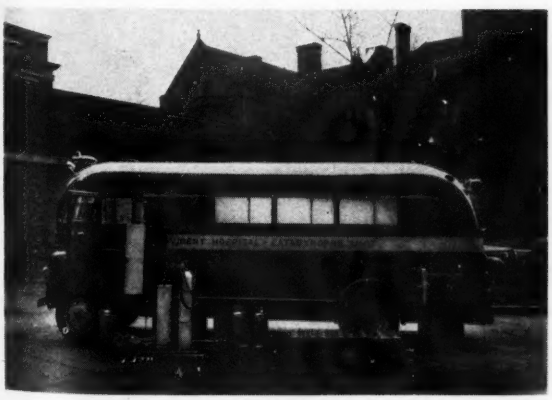
JOHN B. WEST, M.D.

ON DECEMBER 16, 1941, Provident Hospital presented to the medical profession a new and radically different type of ambulance unit. During two previous years of experimentation many plans and models had been constructed and torn down. Finally, in August 1941, the plans were considered sufficiently perfected to place them in the hands of the Kalamazoo Coaches, Incorporated, at Kalamazoo, Michigan, for production of the first unit. The Catastrophe Unit costs about $7000, equipment approximately $1000.

This new unit is specially designed by the author to meet the medical needs of civilian disaster and army maneuvers in battle. It appeared that some type of hospital on wheels was the logical answer to such mass casualties as result from bombing raids and sabotage and that in many areas it is far more satisfactory from a medical standpoint to dispatch a surgical station to a scene of mass disaster than to transport wounded civilians to stationary posts. Thus some type of mobile hospital, preferably with a large capacity for patient transportation, appeared the answer to part of the problem. With these points in mind the present Catastrophe Unit has been evolved.

Construction

The first such unit produced is constructed on a cab over engine Mercury, 100 horsepower, chassis of one and one half ton capacity. It has a top speed of sixty miles an hour and uses a four-speed transmission with a special power take off. Two dual rear wheels provide a four-wheel drive. Special compartments open outside and house all equipment to be used outside the Unit. Other compartments open to the interior and provide space for those items to be used inside the operating room in the rear of the Unit. The entire body is insulated by two inches of glass wool.



Side view of Catastrophe Unit (equipment removed)

The Author

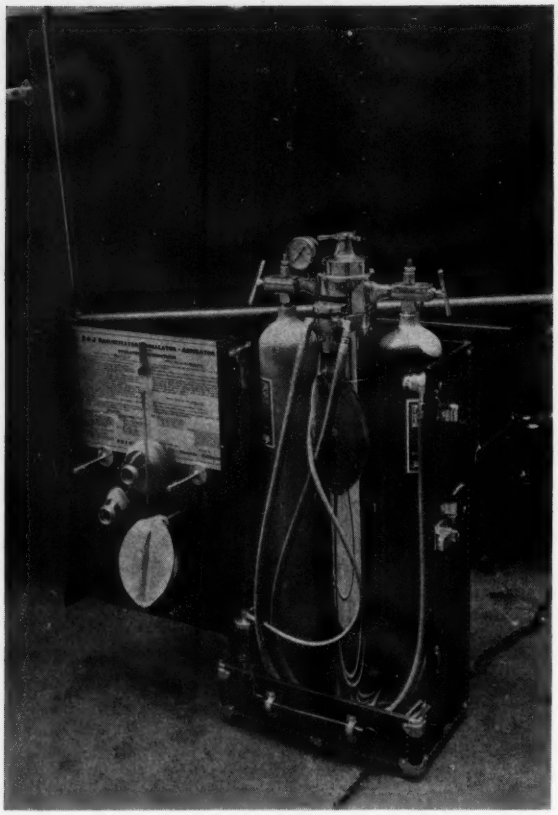
● Dr. John B. West is Medical Director of Provident Hospital, Chicago, Illinois, and the Designer of the Catastrophe Ambulance Unit.

Equipment

The front, or driver's compartment is provided with a short wave radio for contact with the base hospital or central dispatching station to eliminate the necessity of returning to base for re-dispatching. A map board, with maps of the area to be served, is immediately beside the driver's seat. Against such catastrophes as entrapment in metal compartments, an acetylene cutting torch, capable of cutting through ten inches of steel is located on the rear wall of this space. The compartment is heated and is provided with adequate defrosting apparatus and electric windshield wipers. All lights can be controlled from the master panel in this compartment, and a single switch is provided for immediate blackout of all lights. Communication with the rear compartment is provided through a sliding glass panel. Entrance to the driver's compartment is from the left side of the Unit.

Immediately rear of the driver's door on the left is a forty gallon stainless steel hot water tank heated by a copper coil fed from the motor cooling system. This ensures a supply of water at a temperature of approximately one hundred and seventy degrees (170°) Fahrenheit at all times. In a similar position on the right is a forty gallon cold water tank. Both tanks are provided with electric force pumps.

Three long under-floor compartments, opening from the exterior, house wrecking equipment, resucitator and special tools. Gas masks and



Resuscitator

asbestos suits are accessory equipment. At the rear is a door leading to a large interior compartment provided for six nurses' bags. All compartments are equipped with automatic lights and are waterproofed.

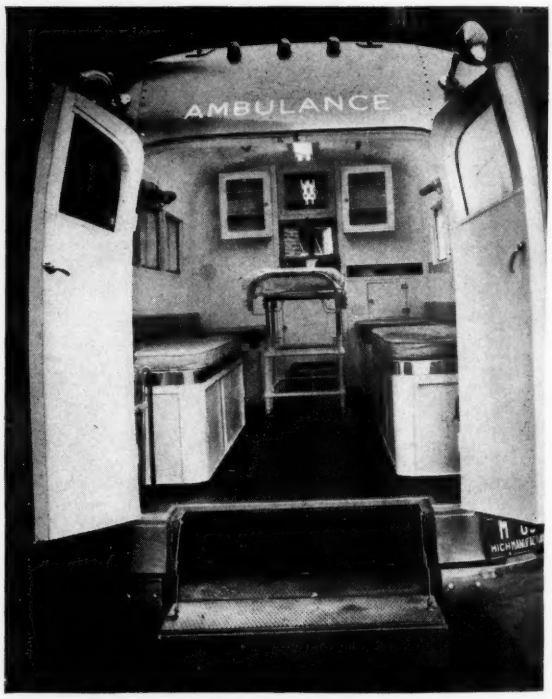
Windows are of two types. One model uses sand-blasted sliding glass windows, and the other, ten inch round windows patterned after portholes, as a seal against gas attacks. All glass is shatterproof.

The front right side houses a warming compartment for blankets to be used in treatment of patients in shock. This compartment may be opened from inside or outside and accommodates twelve complete bed complements, including twenty-four blankets. A thirty-six gallon gasoline tank is located in the middle of this side. Two under-floor compartments provide adequate space for surplus supplies, and a door at the back provides access to the interior compartment for six doctors' bags. An escape door in the middle of this side permits moving a patient into the unit from the side and is opposite the operating table.

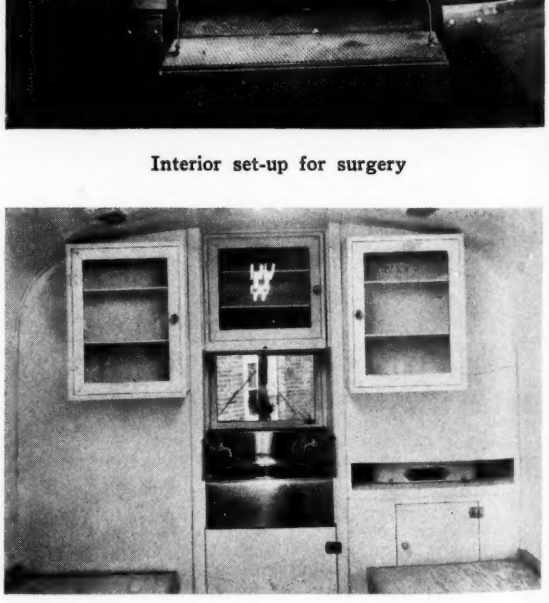
Operating Room Compartment

The rear or operating room compartment is thirteen feet long, six feet wide and six feet two inches high inside. At the front of the compartment is a stainless steel sink provided with hot and cold water. Immediately above is a steel and glass cabinet for storage of surgical instruments. A light under this compartment illuminates the sink. Below the sink is an oversize heater, and immediately between the heater and sink is an insulated compartment for pre-warming plasma. On either side of the sink above the level of the water tanks is a large supply cabinet.

Running completely along the left side is a compartment thirteen feet long, eighteen inches wide and twenty-two inches high. This compartment stores supplies at the front and nurses' bags at the rear. It is provided with sliding doors and may be opened from inside or outside. It is covered with four inch, water-proofed foam rubber



Interior set-up for surgery



Sterilizing panel and instrument cabinets

cushions and accommodates two patients. A similar compartment is built into the right side, but is interrupted in the middle by a removable section to permit access through the side emergency door. Supplies are stored in the front and doctors' bags in the rear. A sterilizer heated by 110 volt element is built into the front compartment on this side. Two overhead stretchers are suspended from the rear part of the ceiling. They are removable, and when not in use may be folded back against the wall. Thus, the Unit as it now stands, transports a total of seven patients at once. Two are carried on each longitudinal bunk, one on the cot-operating table and two in overhead stretchers. It is posible to suspend two similar stretchers anterior to the present set, raising the capacity to nine.

The ceiling of the operating room has three dome-type, six-volt lights on each side and a specially designed 110 volt fluorescent fixture for shadowless operating room light. Two push-pull ventilators are installed in the roof.

A specially devised combination cot-operating table stands in the aisle between the side compartments. This table is secured to the floor when necessary by floor-well locks and can quickly be maneuvered into Trendelenberg position. A floor trap permits easy disposal of waste.

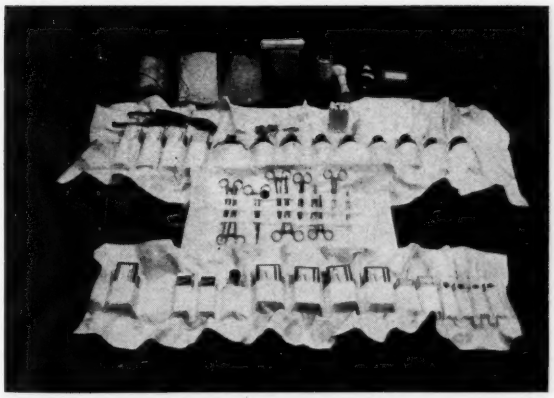
Access to the rear compartment is mainly through a double rear door equipped with a new type of disappearing folding step that facilitates moving patients in and out of the Unit. A second heater is placed just inside these doors to ensure even temperature throughout the operating room. An underfloor compartment, facing the step, houses spare tire, flare sets and jacks for leveling the unit on uneven terrain.

The electrical system provides six volt lines fed from two 25 plate, 207 ampere hour storage batteries, recharged by a special, heavy duty generator, and 110 volt A.C. fed either by extension from ordinary house current or from a 110 volt, 3000 watt generator which derives its power from a take off from the transmission. This current is used for sterilizers and fluorescent lights.

The Unit carries a complement of six nurses, six doctors and two orderlies. Its supplies are sufficient to adequately care for over one hundred minor emergencies and ten major operations in the field without replenishing its stores. For each doctor and each nurse there is a fully equipped fiber case. Wooden and Thomas splints, padding and plaster bandage are included for fracture work.

Each of the doctors' bags contains the following:

1 Pair Straight Scissors
1 Bard Parker Handle



Contents of doctor's bag

1 Pair Mouse Tooth Forceps
2 Small Straight Kelly Clamps
2 Large Curve Kelly Clamps
1 Needle Holder

Drugs

Ampoules

Caffeine with Sodium Benzoate 7½ grs.	12
Coramine 1.5 c.c.	4
Distilled Water 10 c.c.	4

Vials

Epinephrine Hydrochloride 1:1000 30 c.c.	2
Tetanus Antitoxin 1500 Units.	12

Liquids

Alcohol 95% 8 oz.	1
Aromatic Spirit of Ammonia 8 oz.	1
Burn Solution No. 1, 3 oz.	1
Castor Oil 8 oz.	1
Hydrogen Peroxide 8 oz.	1
Mercurochrome 4% 8 oz.	8
Spiritus Frumenti 8 oz.	1
Tincture Green Soap 8 oz.	1
Tincture Iodine 3½% 8 oz.	1

Ointments

Nupercainal 1 oz.	3
Tanipaste 4 oz.	4

Powder

Mustard 6 oz.	1

Tablets

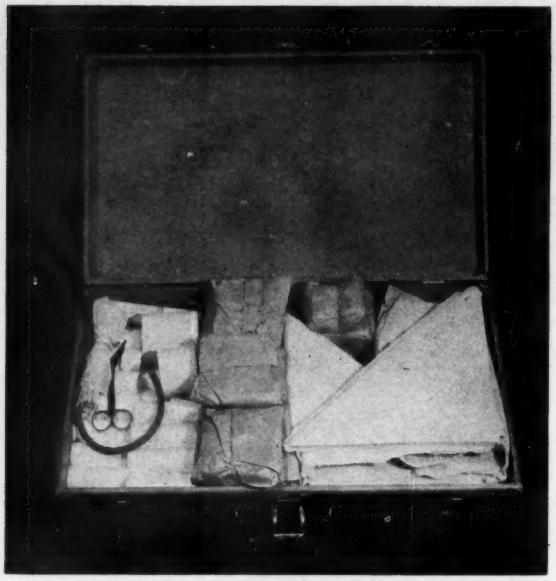
Morphine Sulphate gr. ¼, Atropine Sulphate gr. 1/150	24
Apomorphine Hydrochloride gr. 1/10.	6
Atropine Sulphate gr. 1/150.	24

Miscellaneous

Ether ¼ lb.	4
Chloroform ¼ lb.	1
Blood Plasma 250 c.c.	2

Each of the nurses' bags is stocked as follows:

100 (4x4) Dressings
100 (3x3) Sponges
½ doz. Sterile Towl
Adhesive—2", 1 roll
Adhesive—3", 1 roll
Bandage (gauze) 1"—1 doz. rolls
2"—1 doz. rolls
3"—1 doz. rolls
Muslin Bandage 3"—½ doz. rolls
1 Pair Nurse's Bandage Scissors
6 Triangular Bandage
6 Abdominal Pads
1 Tourniquet



Nurse's bag, packed

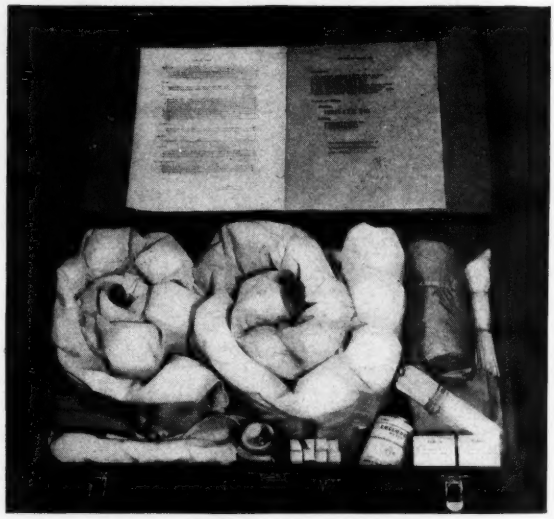
Sterile surgical packs containing instruments and linen are stored in the interior front compartments, at the head of the operating table.

A small, feeder ambulance of conventional type is used to transport patients from the scene of the catastrophe to the hospital. This ambulance also brings new supplies to the mobile hospital when needed. This ambulance costs approximately $1800 not equipped. ($2200 fully equipped.)

It is our belief that this unit presents the answer to some of the medical needs in both civilian and army warfare, and that every major coastal city and every defense area should be provided with some similar type of unit in preparation for mass casualties. It is imperative that steps be taken to ensure the best and quickest possible medical care to both civilian and soldier wounded, and the preparation must be made before the need arises.

This Unit has been favorably reviewed by representatives of the United States Army and the Office of Civilian Defense, and we hope it will help solve some of the imminent problems of medical civilian defense.

The author wishes to acknowledge with appreciation the suggestions for improvements made by Mr. F. L. Dennis, Mr. Fred Schroen, Mr. Homer Roberts and Mr. John Paul Davies; and the cooperation of the craftsmen of the Kalamazoo Coaches, Incorporated, whose untiring efforts and interest translated this Unit from paper to steel and wood. We hope that this may be a contribution to the defense of our country.



Doctor's bag, packed

Additional Awards to Winning Artists in National Hospital Day Competition

Through the cooperation of the Blue Cross Plans, the prizes previously announced as awards to the artists submitting winning posters will be augmented by the provision of free hospitalization benefits. These free subscriptions will be given to the four national winners, and will entitle them to the complete benefits of their local Blue Cross Plans, as listed in the service contracts of the plans, for a period of one year beginning May 1, 1942. Judging by the letters received, a large number of the sixty-seven plans are going to offer special local awards, ranging from additional free subscriptions to Defense Bonds. It is certain that these extra prizes will stimulate the interest of artists, and will result in a greater number of entries. In this way, superior art work will be available for the judges' inspection, and considerable favorable publicity will accrue to the hospitals.

It may be to the interest of hospitals to ask their local Blue Cross Plan as to its participation in the competition, and whether or not extra awards will be offered, so that complete information may be given artists and others who will make inquiries at the hospitals. A supply of the poster competition announcements is available, and may be had by writing the National Hospital Day Committee, care of the American Hospital Association, 18 East Division Street, Chicago, Illinois.

Fire Prevention and Fire Fighting

LORENTZ WESTWIG

ONE of the disadvantages of suddenly expanded activities in institutions and industry is the increased danger of fire.

The cause for this is the larger turnover and scarcity of well-trained employees. Rushing of the work and carelessness are also contributing factors. Good administrative planning of the work and the correct attitude of supervision can serve to offset the ill effects of the two last-named factors.

The damage and misery caused by fires have resulted in the development of a complete industry for the manufacture of fire-fighting apparatus and in the organization of corps of specially trained men versed in the art of prevention and fighting of fires.

It is a comparatively simple matter to extinguish a fire, if it is fought intelligently at its origin. To do this it is necessary to have an understanding of what fire is and how it may be combatted.

Combustion Fire

Combustion fire is an oxydizing process, that is, the process by which a substance combines with oxygen in a chemical reaction. Almost all materials oxydize slowly all the time, and this oxydation produces heat. When the oxydizing process is rapid, sufficient heat is generated for ignition and combustion. Two elements are necessary to make and sustain fire in an article — oxygen and heat. The oxygen is supplied in the air, and the heat is generated by the oxydizing process, or furnished by some outside means, such as a match, gas flame, or electrical appliance.

Procedures In Controlling Fire

To put out a fire, cut off the oxygen supply and cool off the burning article. In all cases of fire the air can be cut off, but the cooling process cannot always be used, such as in instances of fire in fluids or electrical wiring. Nearly all fire-fighting apparatus operate on the principle of putting a non-combustible gas layer over the fire to cut off the air. This works well as long as there is no wind or draft over the fire to blow the gas away. If there is wind or draft, the best remedy is to throw something more substantial over the fire. A blanket, preferably wet, and preferably wool, is ideal for this purpose.

The Author

● Lorentz Westwig is Chief Engineer of the New York Post-Graduate Medical School and Hospital, New York City.

The other remedy to extinguish a fire is the cooling process. In the cooling process there is also in many cases a layer of gas formed over the fire but one should not rely on that. Water is one of the most effective means of extinguishing fires, except electrical and liquid fires. *Never use water on such fires.* The cooling action of water is a result of the large amount of heat required for its evaporation. It takes 1000 Btu to evaporate one pound of water. The steam formed by evaporation keeps the air away and thus performs a double purpose. The soda-acid extinguisher gives the same effect. The carbon tetrachloride extinguisher gives a similar smothering effect, but a lesser cooling effect, as one pound requires only 100 Btu for its evaporation. The gas from this is heavier than air and will stay in place longer. The carbon dioxide extinguisher also has some cooling action as the gas is cooled off when released from the high pressure in the tank or container and expanded to atmospheric pressure. The main performance of this extinguisher, however, is to place a layer of gas over the fire and cut off the oxygen necessary for combustion. The gas is heavy, and does its work well provided there is no draft or wind to blow the gas layer away.

Separating the Flame from the "Burning" Body

Another method is to separate the flame from the "burning" body. The action is the same as when you blow out a flame on a burning match. The flame is gases burning. The gases are generated from heat in the burning body. The flames supply more heat and more gases and flames are

produced. This extinguishing process works well as long as the temperature of the burning body is below the ignition point of the gases. If the temperature is higher the flame may be blown out but will start again immediately. This method is seldom used as it can only be applied in case of very small fires.

Fires of electrical origin cannot be extinguished before the current is cut off. Switch off the current and apply fire extinguisher or water if anything is still burning. The carbon tetrachloride or carbon dioxide extinguishers are the best, if available. A blanket is good if it can be applied, but such fires are mostly on the wall or in the ceiling, so covering is rather difficult to apply.

Fires in liquid are best put out with a blanket or cover. If it is grease or other liquid in a vessel or frying pan, turn off the gas and put on a cover. Do not use water or soda-acid fire extinguisher.

Foam Extinguishers

The foam extinguisher is used extensively where there is danger of fire in liquids. It contains a sodium bicarbonate solution with a foaming agent added. The foam floats or rests on the flammable surface. The stability of the foam is good as it shrinks only 10 per cent in 15 minutes. A 2½ gallon tank will form 20 gallons of foam.

Powder Extinguishers

The powder extinguisher, recently developed, is charged mainly with sodium carbonate and additives to keep the powder dry. A carbon dioxide cartridge is located in the extinguisher. When this is punctured, the released carbon dioxide gas forces out a cloud of sodium carbonate dust which sweeps the flame from the burning surface.

As will be seen, extinguishing of fire consists of keeping the air away from the burning material and cooling it off if possible.

Thermit or Incendiary Bombs

A few words about the thermit or incendiary bombs. Thermit is a fine aluminum powder and iron oxide. It was discovered in 1895 and was used for different industrial purposes. With the era of the airplane in wars, it was incorporated in an incendiary bomb. It starts to burn at 2800F. and the resultant temperature is around 5000F. To ignite the thermit a high temperature flash as from magnesium is used. Once started, it will burn like any other material. Air is not necessary to support the combustion as enough oxygen is liberated from the iron oxide. The result of the combustion is molten iron and ashes from the aluminum. To extinguish it, apply a fine water spray to cool it. A solid spray on one spot will burst it open. It is claimed that with a fine water spray the bomb can be cooled off enough to extinguish it in 3 minutes. It will not burn below 2800F. and that is still approximately white heat.

Only persons with training or special instruction should attempt to extinguish a bomb of this kind.

Dr. B. Henry Mason

Dr. B. Henry Mason, one of the best known hospital administrators in New England and until recently superintendent of the Waterbury Hospital, Waterbury, Connecticut, died on January 1 at his home in West Hartford, Connecticut, age sixty years.

Doctor Mason had an extended and successful career as a hospital administrator, was the author of many articles on medical and kindred subjects, and was widely known as a neuro-psychiatrist.

Upon his graduation from Bowdoin Medical School, Doctor Mason served as an intern at the Maine General Hospital. He was assistant physician at the Worcester State Asylum; engaged in general practice at Portland, Maine; was appointed assistant superintendent at the Worcester State Hospital from 1914 to 1918; superintendent from 1918 to 1921; was assistant director of the Psychopathic Hospital, Ann Arbor, Michigan, from 1921 to 1923; first assistant superintendent of the Peter Bent Brigham Hospital, Boston, from 1923 to 1927, when he was appointed superintendent of the Waterbury Hospital; retired as superintendent of the Waterbury Hospital in 1941 because of ill health.

Doctor Mason was a member of the American Hospital Association for more than twenty years. He was a fellow of the American College of Hospital Administrators, he served as president of the Connecticut Hospital Association for two years, and served on many committees of the American Hospital Association.

Importance of Improved Service as Basis of Public Relations

HENRY L. GOODLOE

ONE of the assets most essential to a hospital is the confidence of the community it serves. When the people living within these areas feel that it really belongs to them, its administrators have gone far toward establishing that confidence.

But such good will may not be had overnight. Contact with the community is essential; and the hospital that idly allows unfavorable gossip or bad rumors and impressions to grow, will alienate the very patients it sets out to serve.

The Hospital Should Be Alive to New Trends in the Community

When a hospital keeps in mind its objective of meeting the needs of the community it serves and that in turn supports it, it seems to me it will be alive to the new trends, and new methods and developments in the community, and will devise some means of meeting the demands on it. A close understanding and work relation among the professional community, the patient community and hospital management, will make for adequacy in service, in financial support and in hospital faculties. It is a three way game.

Yet if a hospital wishes to create good will and confidence in its contacts with its community, something beyond mere publicity must be employed.

A Smoothly Functioning Organization Shows Careful Planning

From private business management it could well learn that its name must be identified with good service, reasonable charges, and fair dealing. This is, to be sure, an ideal difficult at times to carry into practice; for we are all familiar with the patient who, upon discharge, is resentful over real or fancied complaint. The food, it may be, has provoked his criticism, or he may be persuaded that some charge on his bill was unjustified. Just how irreparable may be the damage which the circulation of his complaint will do in the community, I hardly need remind you. For, like all worthy things, good will is hard to secure and easy to lose. Once lost, it is still harder to regain.

Obviously, then, the first means of creating between the institution and its patients an attitude of friendly and open-minded good will is a smoothly functioning organization. This implies setting one's own house in order, erasing unfavorable impressions before they have time to develop, and investigating thoroughly to determine whether patients really are satisfied. For if they are not, once the true reasons are brought to light, the correction of faults is not hard. Just as a hospital's percentage and rapidity of recovery are high, so it must be with its standard of service; and if the food is tasty and attractively served, the system for charging for services rendered is sensible, and the management is efficient, the patients will gladly recommend the institution to their friends.

Questionnaire to Former Patients Provides Helpful Suggestions for Improved Service

Here, for example, are some of the measures practiced in our hospital by which we think we have overcome gossip and rumors and have regained the good will of the community. To determine whether our patients were satisfied, we sent to all the patients who had been in the hospital during the past two years, a questionnaire, explaining that we wished to improve the services rendered and would appreciate any helpful suggestions that they might give. Interesting indeed were the facts which our survey brought to light, two important ones were, that our building was cold and the employees in executive positions, dic-

The Author

● **Henry L. Goodloe is Superintendent of Dixie Hospital, Hampton, Virginia.**

Presented at the American Hospital Association Convention, Atlantic City, 1941.

tatorial in their attitude toward patients. Our first move, then, was with the personnel. Meetings were called, first with heads of departments and then with all employees. They were counseled in a program to build up the hospital's reputation and were shown in what way their cooperation was essential.

Admissions and Business Arrangements Governed by Principles of Courteous Service

Patients too, upon admission were advised of the hospital's plan to serve them. They, or their relatives, were acquainted with the quality of care which they should expect of employees; they were advised that there might be much in the functioning of a hospital which they did not understand, and they were encouraged to ask for explanations. Such sound business principles have furthered good will.

Then, too, we try always to be businesslike and tactful in our business office. If possible, financial arrangements are always made before admission; and we try to prevent all possible misunderstandings by furnishing adequate information. If, after admission, a patient must have expensive therapy that we have reasons to believe his finances will not permit, we follow the policy of talking the matter over in detail with his physician or a member of the family. This precaution has eliminated many complaints, and, frequently, has made the difference between a bad debt and a paid-in-full account. All complaints that we receive, no matter how small, are investigated at once. As a result, our service employees and nurses are aware that a complaint will be investigated and, consequently, they strive to turn out satisfied patients.

Conclusion

As a result of our good will program by improving service, our census has increased 75 per cent. With the additional income available we have been able to improve our present equipment and to make desirable replacements. This, with additional help and the education of personnel, has caused the medical staff to be better pleased, and, in turn, they have become more hospital minded, using the facilities of the hospital to a larger extent.

Such experiences as I have here related have convinced me that a large part of the criticism detrimental to hospitals results from a general lack of information and ignorance of facts. Investigate your circumstances, improve your service, and tell your story. If you will uncover smouldering dissatisfactions, right the conditions, and volunteer all necessary explanation, you can have any community behind you one hundred per cent.

The Wisconsin Hospital Association Holds Its Mid-Winter Conference

The Mid-Winter Conference of the Wisconsin Hospital Association was held in Milwaukee, January 22. The Conference was divided into a number of section meetings for administrators, trustees, nurses, pharmacists and other departmental heads.

The morning session was devoted to nursing service and nursing education, with Rev. H. L. Fritschel as the chairman. Participating in the panel discussion were: Leila I. Given, director of Bureau of Nursing Education, Madison; Margaret T. Sharp of the Milwaukee Chapter of the American Red Cross; Miss C. Murray of the University Hospital, Madison, and Margaret W. Johnson of the Beloit Municipal Hospital.

The second morning session was devoted to discussions on personnel, national youth administration, hospital budgets, and maintenance of supplies and purchasing.

The afternoon sessions were devoted to panel discussions on the admitting office, credits and collections, general accounting, purchase and issuance of supplies, and special rural problems.

The administrators' meeting was presided over by Joseph G. Norby.

The trustees' session was a panel session with L. F. Thurwachter, president of the board of Waukesha Hospital, and Dr. Bert W. Caldwell as coordinators.

The feature of the Conference was a luncheon honoring Dr. and Mrs. Robin C. Buerki, formerly superintendent of the University Hospitals at Madison. This luncheon was attended by the old-time friends of the Buerki's, and the testimonials of esteem and affection which greeted them was one of the finest tributes of their work in Wisconsin.

Dr. E. T. Thompson, secretary of the Association, arranged the program for the Conference, which was attended by one hundred fifty people representing Wisconsin's fine hospitals.

Price Trends of Hospital Commodities

McGill Commodity Service, Inc., Auburndale, Massachusetts

Sponsored by the Committee on Purchasing of the Council on Administrative Practice

IT IS important to again emphasize some inevitable economic trends under the stress of warfare. There is no alternative other than full absolute power by the Government to dictate all transactions within the United States. A year ago there were no priority orders limitation orders, or price ceilings. Today there are 81 "M" orders, 26 "L" orders, and 61 price ceilings. This is only the beginning, and a year hence the restrictions now in force will appear limited in comparison. The cost of living is bound to increase at an accelerated pace. We predict that during the course of the next twelve months the cost of living will increase more than during the first two years of the war. The standard of living is inescapably downward due to many reasons, outstanding of which is the curb in production of all luxury goods. Then, too, the sudden and drastic increase in taxation will automatically curb purchasing power.

The seriousness of the war situation demands radical strides along the lines of simplification in production as well as standardization. The field of substitution will come into its own during the next two years. While there is every assurance of ample supplies of clothing, food, and fuel, nevertheless, rationing is not on the way but is actually here, and tires are at the top of the list. Either sugar or gasoline will run a close race for second place. Finally, do not minimize the tremendous burden that confronts our internal transportation system. The unprecedented volume of war goods, from raw materials to finished goods, which must pass through normal channels will tax the facilities available. Hence, there is a strong prospect that railroad priorities will be inaugurated by the fall of this year.

The one phase that has created anxiety and has abruptly sobered the masses is the ban on automobile and tire sales and the prospect of gasoline rationing by the summer of 1942. The ban should not be confused with the gasoline fiasco which prevailed along the Atlantic Seaboard last summer. There is an actual shortage of metals and rubber. The outlook for an adequate rate of rubber importation is far from encouraging. Hence, reserves must be conserved and, obviously, armament needs come first. The necessity for restricting automobile mileage will bring serious repercussions, and this is well illustrated by a few figures.

There are 40,000 car and truck dealers in the United States, and about 87,000 auto repair shops. Retail gas outlets number 400,000, while retail automobile accessory stores total 94,000. This group accounts for 22 per cent of our entire retail trade. Incidentally, this figure does not take into consideration important groups that are directly affected, such as the manufacturers of upholstery and plate glass. Furthermore, thousands of small businesses in small towns and cities have been built up in recent years, due entirely to automobile transportation. It is estimated that around 40 per cent of the business transacted is derived from out-of-town buyers who use automobiles exclusively for transportation. Perhaps the seriousness of the situation is being overemphasized, but there are two things that cannot be ignored: First, rubber is a commodity of foreign origin and an adequate producing capacity of synthetic rubber is not available. Second, the amount of rubber in this country is far from exorbitant in terms of armament needs. This problem calls for careful study.

All Commodities

It is assumed in some quarters that the forthcoming price control bill will put an end to all the uncertainties surrounding the element of price. Such an attitude is a critical mistake. The war makes imperative priorities, allocation, inventory control, and jurisdiction over price. However, economic forces are constantly at work, and hence, basic changes occur from day to day. To illustrate, an extremely powerful price control plan existed during World War I. From August 1914, to April 1917, prices in this country advanced 64 per cent. Immediately after the United States declared war in 1917, hundreds of commodities were placed under a price ceiling. However, the records show that when the war ended in November 1918, the price level was more than

20 per cent higher than in April 1917. Remember that the vicious cycle of rising prices, wage rates, producing costs, and transportation rates has been moving upward at an unbroken pace for two years. History proves that once inflation starts, it is extremely difficult to restrain. Needless to say, the forthcoming price control bill coupled with the unprecedented taxation schedule will do much to curb the danger of inflation. However, the main point to keep in mind is that the underlying trend is inescapably upward and we predict that during the calendar year 1942 prices will advance at least 10 per cent.

Drugs and Chemicals

War is bound to have a profound effect upon drugs and chemicals, first because imports of foreign products are facing a serious contraction, and second, under the mammoth armament program domestic consumption will automatically reach new peaks which will tax producing capacity. During the past month opium prices have advanced sharply. Alcohol prices skyrocketed and the object of the extensive advance is to speed up natural and synthetic production. A tight supply situation is indicated throughout 1942. Meanwhile, quicksilver prices successfully reached new high ground.

Paper Products

The threat of a serious shortage of paper in 1942 is not without foundation. Record-breaking output last year rapidly entered consuming channels and the backlog of unfilled orders is of abnormal proportions, even though considerable tonnage has gone into inventories. The main points to keep in mind are, first, war and all its implications are now an actuality. Government requirements could easily absorb 30 per cent of aggregate output. This means that with the balance divided among civilian consuming channels, the margin between supply and demand will be exceedingly thin. Second, the underlying trend of producing costs is moving slowly yet steadily upward and there is danger of an inadequate supply of chemical pulp as well as a diminishing supply of important chemicals.

Cotton Goods

Whereas during 1941 the Government's defense purchases of cotton textiles amounted to about 15 per cent of total output, the increased war production program means that nearly 30 per cent of 1942 production will be required for direct war purposes. Because of the shortage of other textiles, cotton goods will be employed widely as a substitute. There is a shortage of silk, and burlap and jute, and there are prospective shortages of paper and other such materials. Cotton textile production will be increased this year, but there is growing doubt that the industry can operate on a full 24-hour basis.

Fuels

There is no shortage of soft coal and the present producing capacity is large enough to maintain a supply adequate for a sizable increase in domestic consumption. The primary problem which must be faced during the year ahead is that of transportation and it is of interest to note that Fuel Coordinator Ickes has recently recommended that industrial consumers build up the largest possible reserve during the immediate future. Fortunately, almost all industrial users had large stocks on hand at the outbreak of the war. New orders in the past few weeks have been of small proportions and we understand that there have been small price concessions obtainable in some grades. It is now a foregone conclusion that prices to ultimate consumers will be increased through the addition of higher freight rates.

In regard to fuel oils, heavy consumption of residual has brought a stronger statistical position in the principal producing areas which may result in a moderate increase in prices to consumers. Stocks of light fuel oils are currently

McGILL MONTHLY WHOLESALE PRICE INDEX FOR *HOSPITALS*

	Jan. 1934	*Jan.* 1935	*Jan.* 1936	*Jan.* 1937	*Jan.* 1938	*Jan.* 1939	*Jan.* 1940	*Jan.* 1941	*Dec.* 1941	*Jan.* 1942
ALL COMMODITIES	60.7	71.5	74.3	81.7	72.4	68.5	73.5	75.3	89.6	92.0
Drugs and Chemicals	74.6	73.5	71.7	70.4	69.6	69.6	78.0	77.9	82.3	90.2
Paper Products	77.0	84.0	79.2	81.0	99.0	90.5	89.6	97.1	103.7	106.5
Cotton Goods	84.1	88.2	79.2	94.6	69.4	72.0	85.9	87.8	103.2	108.2
Surgical Dressings	82.8	82.8	81.0	81.2	70.4	68.8	73.4	74.3	88.0	88.0
Fuels	75.7	74.3	71.1	80.4	92.7	81.3	98.3	94.4	100.1	100.1
Groceries	52.0	72.1	68.7	89.0	60.3	53.0	59.2	53.6	86.7	91.5
Meats	50.2	73.8	91.0	82.7	74.5	77.6	71.2	90.4	97.8	102.5
Fresh Fruits	91.1	77.3	61.1	75.9	51.6	51.9	62.0	57.4	70.8	66.5
Canned Vegetables	98.3	92.9	84.6	83.9	76.7	64.6	66.8	64.4	87.2	88.6
Canned Fruits	71.7	80.0	72.9	75.4	80.3	67.2	67.6	64.7	84.7	84.7
Dairy Products	61.1	75.8	76.1	74.9	71.8	62.6	68.2	71.7	95.9	94.0

holding well above year-earlier figures, although the trend of supplies is downward along seasonal lines. Crude oil production and refinery runs are holding at peak levels, but reserve stocks of crude oil do not appear large in terms of the present volume of consumption. As in the case of other petroleum products, the future outlook for transportation is the primary factor at the present time. The outlook is none too reassuring as regards supplies for non-essential industries.

Gasoline production is now at all-time peaks and current stocks are holding well above a year earlier, while the ban on new cars and tires is bound to restrict non-essential consumption. It takes no stretch of the imagination, however, to visualize the essential position of tankers in the war. Although large numbers of tankers have been returned from the British shuttle service, there is every indication that the supply of gasoline moving to East Coast consuming areas will be reduced. It is quite possible that a gasoline-rationing program will be established next spring, and this time the shortage will be a real one and not a repetition of the fiasco of last summer.

Groceries

The underlying price trend of foodstuffs is inescapably upward. It is not due to any shortage either actual or prospective, but rather reflects a Government plan to subsidize agricultural products in the endeavor to stimulate production. Therefore, it is not the normal functioning of economic laws that predominates but rather such forces as Government loans, minimum prices and aggressive purchasing for lend-lease export. A check-up reveals that during the past month wholesale prices of beans, coffee, corn oil, cottonseed oil, sugar, flour, and rice have all registered strength.

Dairy Products

Here again Government support in the form of fixed minimum prices and heavy purchases is playing an important role in sustaining the price level. The fact remains that the magnitude of the price rise since last summer has proven of fairly substantial proportions, and automatically tends to discount much of the bullish influence. In regard to butter, cold storage holdings now stand materially above the average of the past two years. It seems logical to assume that under the pressure of record-breaking milk production this spring and new peaks in butter output, there is bound to be some seasonal weakness three to four months hence. Likewise in the case of cheese, cold storage holdings are of record-breaking proportions. However, the Government is active and Federal agencies from March 15 to December 12 last year purchased more than 148,657,000 pounds of cheese. Heavy exports are contemplated under the lend-lease act. Egg production has recently held at record-breaking levels close to 10 per cent more than a year earlier. The Government is supporting the market and huge quantities will be purchased, particularly in dry form for lend-lease export. Nevertheless, the seasonal factor cannot be entirely eliminated and there are definite grounds for assuming that the seasonal price rise has in the main run its course.

Miscellaneous

Aggregate supplies of canned fruits and vegetables will not be abundant, as the Government is planning to purchase huge quantities for export. The truth of the matter is that the war has changed the economic position of foodstuffs in general because the Government realizes that eventually this country will be called upon to feed a substantial portion of the world, not only during the balance of the war period but in the post-war era of rehabilitation. The production cycle of livestock is steadily expanding, this being particularly true in hogs and cattle. However, the cost of production is on the increase and it is a foregone conclusion that retail meat prices will hold on a high plane for an indefinite period. In conclusion, we wish to again emphasize the important point that there is little hope of a price control plan that will prevent prices from steadily rising. It is our contention that during the calendar year 1942 the composite Index of All Commodities will rise at least 10 per cent.

The Costs of Accidents

Total calculable accident costs in 1940 totaled around $3,500,000,000. The cost to industry was approximately $700,000,000, representing 17,000 deaths and 1,400,000 injuries. Had we diverted into productivity the billion and one-half man-hours lost in 1940 through work accidents, these hours would have been sufficient to construct 27 battleships, 200 destroyers, or 75,000 fighter planes.

Central Council for Nursing Education

The Central Council for Nursing Education will hold its annual meeting on Monday, February 16, at 12:15 p. m., in the Grand Ballroom of the Palmer House, Chicago. Franklyn Bliss Snyder, president of Northwestern University, will be the guest speaker.

This meeting will be held, as usual, in conjunction with the Congress on Medical Education and Licensure.

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EDITORIALS

Hospital Policies in Post-War Period

The hospitals of the United States must plan to develop and coordinate their policies with the inevitable socio-economic adjustments following the war. The basis of financial support is a matter of increasing concern. Philanthropic support, already considerably reduced, will reach lower levels. The increased use of hospital facilities will add to the gross cost of hospital operation. The problem of making hospital care available to every one who needs it is the concern of Government as well as the objective of our voluntary hospital system. The problems confronting hospitals challenge the careful thought and planning not only of the American, Catholic, and Protestant Hospital Associations, but of every institution caring for the sick.

Government building of hospitals will not be lessened. The impact of 300,000 additional beds in tax-supported hospitals—increasing the present ratio of beds in tax-supported hospitals from 2.5 to 3.5—will be serious as far as our voluntary and private hospitals are concerned. It need not be a menace to their post-war security and continued operation if our hospitals and their organizations will devote study and thought to the satisfactory solution which this important problem requires.

This study and consequent planning should be given in charge of appropriate committees, composed of seasoned hospital administrators, members of hospital boards of trustees, and representatives of the public. As the development of post-war hospital policies must directly affect all institutions, governmental, voluntary, denominational and private, the study and planning should be a joint activity rather than an activity of single groups with more or less divergent interests.

There should be no delay in initiating the study and planning program. If hospitals desire a voice in developing post-war policies, they should be fortified with exact information. They should be fully conversant with the constantly changing conditions which influence the policies to be determined.

In Great Britain such organizations have completed initial surveys, notably the Nuffield Provincial Hospital Trust and the British Hospitals Association, and have made them available to the Ministry of Health. In an address before the House of Commons, Mr. Ernest Brown, Minister of Health, outlined the Government's Post-War Hospital Policies in part as follows:

> "It is the objective of the Government, as soon as may be after the war, to ensure that by means of a comprehensive hospital service appropriate treatment shall be readily available to every person in need of it. It is accordingly proposed to lay on the major local authorities the duty of securing, in close co-operation with the voluntary agencies engaged in the same field, the provision of such a service by placing on a more regular footing the partnership between the local authorities and voluntary hospitals on which the present hospital services depend.
>
> "The Government recognizes that to achieve the best results and to avoid a wasteful multiplication of accommodation and equipment it will be necessary to design such a service by reference to areas substantially larger than those of individual local authorities. It will be the aim of the Government also to avoid overlapping and uneconomical expenditure by securing the provision of the more highly specialized services at teaching

hospitals and other centers selected to serve these wider areas and by arranging for a proper division of function between hospitals in these areas.

"With regard to the financial aspects of the Government's proposals, it is their intention to maintain the principle that, in general, patients should be called on to make a reasonable payment towards the cost, whether through contributory schemes or otherwise. In so far as any new burden may be thrown upon local authorities in providing or maintaining hospital accommodation, or in contributing towards the expenditure of voluntary hospitals, a financial contribution, the extent of which will be a matter for further consideration, will be made available from the Exchequer."

This is a broad plan and a sound one, looking to the regionalization of hospital services, with emphasis on the principle of established partnership between the Government and voluntary hospitals. The operation of the post-war plan will "produce an effective National Hospital System which will coordinate the municipal and voluntary hospital services."

The voluntary hospitals in the United States will not be federalized or Government dominated after the war. That they should be coordinated in a National Hospital System seems very likely, and in view of conditions that may obtain at that time, it might be wise. Any program that is of great importance to our hospitals and which will be the adopted policy after the war should be a program in which the experience, the research and study, as well as the planning of those who have built our present hospital system will be definitely incorporated.

The Hospital War Budget

The hospital budget for the current year will not be balanced if it is not heavily weighted on the military side.

Pearl Harbor changed the mental processes of our Nation over night and galvanized our chosen representatives into action. We are confident of ultimate victory, but this will not be achieved unless every worker in every hospital cooperates to the limit. Some of us—for the democrat fights like a gentleman—are still acting in terms of defense. We have not yet fully awakened to the need for a thorough-going change in our thinking by which new and surprising ways can be found to deal with our far-flung and crafty enemy.

Taking the hospital for example, how can we play a more active part in the war than by protecting our buildings, organizing for civilian casualties, and participating in the medical effort while giving our best to the armed forces? Is this enough—is anything enough that is not done with all our hearts, with all our souls, and with all our might?

We must repeat unceasingly that the war takes precedence over everything. The first and last objective is victory. On the fighting lines, urgency and the restoration of men to fighting trim are the immediate considerations. This is a war in which no one, however weak, is safe from military injury. It is a struggle of giants on an unprecedented scale to determine which of two ways of living shall survive. There is much for hospitals as well as industry that is still to be done. The rewards for original ideas are bound to be handsome. Let us encourage them. For one thing, we might re-examine our high standards and adjust them to war-time needs, asking the non-urgent beneficiaries of our service for their cooperation during the shortage of high-grade men and quality materials.

We must economize in men and supplies. In a pinch we can get along with less. We should anticipate Government action in such things as priorities, rationing and limitation of luxurious living in any form, private or institutional. This should be an easy price to pay in a period when we are already beginning to mourn the loss of our fallen ones who went forth to battle that those of us who stay at home may have the blessings of a world at peace.

Every hospital must immediately organize an active economy program which will re-define waste and abolish it in every conceivable form. This program must reach into every purchasing department, storeroom, dining room, clerical office and, if necessary, wards and operating rooms.

"Standing orders" must be reconsidered and luxury therapeutics appraised anew in the light of the incendiary bomb.

More work must be done by fewer people. Conservation of time, money, and energy for more important tasks is the order of the day. Staff and patients must be made war-conscious, without spreading needless alarm. Every worker, however humble, can help. The governing board, the medical board, the house staff and the employees, whether organized or unorganized, must have an active war committee to cooperate with the administration day and night. The enemy will not wait—the Philistines are actually upon us!

The tax collector now finds favor in our eyes and we bless him for taking from us that which is, after all, easiest to give. Beside heroism and blood, the contribution of additional money, on a voluntary basis, seems a minor form of assistance. Voluntary payroll deductions for defense bonds are in order.

We want to smile in making our Victory investments, so that we may the sooner be able to dry our tears.

E. M. B.

Hospital Benefit Payments Under the Social Security Law

The President of the United States, in his address at the convening of the present Congress, recommended that several new provisions be incorporated in the Federal Social Security Law. Included among them was the payment of "hospital benefits" to those holding Social Security identification cards. The President in his address made no reference to hospitalization insurance.

The meaning of the President, as interpreted by the authorities in the Social Security, was that employees coming within the provisions of the Social Security Law, and their dependents, would be paid cash benefits on a per diem basis for the period of their stay in a hospital and upon certification of the hospital authorities as to time hospitalized. The tentative per diem rate would be $3.00 per day. This amount is, of course, inadequate and would meet by a little more than one-half the cost of furnishing satisfactory hospital service in a large majority of our hospitals under present costs of operation.

The beneficiary, in the event of his hospitalization, would assume, and probably with some justice, insist that bill for hospital service rendered had been provided for under the provision which the President recommended. The Social Security authorities emphasize that the hospital is under no compulsion to take the patient, but while this may be legally true, the moral obligation of the hospital to provide the service is compelling. It is very doubtful if a large portion of the benefit payments would be turned over to the hospital by the beneficiary who received them.

But of more reaching importance is the concern of the hospital service plans as to the effect the proposed amendment would have not only in maintaing the present enrollment but of increasing the enrollment after the amendment became the law. There is a question whether the employer or the employee, each of whom carries ½ of 1 per cent of the tax expense, would be interested in the Blue Cross plans if the cash benefits are paid the employee when hospitalized. That the new provision may work to the disadvantage of the hospital service plans is easily conceivable. The eight millions of participants in service plans, all voluntary, might be materially reduced when Government provided some, if inadequate, means for their hospitalization. This constitutes a grave danger to the plans.

The Government could enroll all of the beneficiaries of the proposed amendment in the approved hospital service plans throughout the country, insuring a continued satisfactory hospital service for the beneficiaries, and at a less total expenditure than the costs of the cash hospital benefit paid.

The one per cent tax rate is more than sufficient to pay the cash benefits or to enroll the beneficiaries of the law in the hospital service plans.

No law should be favored that would destroy or even impair the voluntary contributions for hospital care made through the Blue Cross Plans by the eight million participants. Their number is increasing. Everything possible should be

done to preserve the principle, the workings of which for seven years have proven so satisfactory to both the public and the hospitals.

In all of Britain's planning for the hospitals, even through the post-war period, the Contributory Schemes are being conserved and encouraged.

Quoting from Mr. Ernest Brown, Britain's Minister of Health, in his address to the House of Commons October 10, 1941:

> "It is the Government's intention to maintain the principle that, in general, patients should be called on when able to make a reasonable payment towards the cost of treatment, whether through contributory schemes or otherwise."

Our own Government can accomplish the purpose of the President, without disturbing the accomplishment of the future healthy growth of our hospital service plans.

Schools of Nursing Should Shorten Their Courses for the Period of the Emergency

The call of the Surgeons General of the Army, Navy, and Public Health for many more young women to enter our schools of nursing again directs attention to the critical situation resulting from the number of graduate nurses being inadequate for the demands of the national emergency. Many of our hospitals have tried to increase the size of their classes; a few have admitted classes at shorter intervals. This has resulted in some increase in the number of pupils but not nearly enough to meet the demand. We shall hope that the call of the Surgeons General and the greater efforts being made by the hospitals to call the attention of suitable young women to the opportunity and the need will meet with an adequate response.

Undoubtedly one reason why young women are not attracted at this time to a career of nursing is the long period of training. They very naturally want to undertake an activity where their efforts will directly help their country at once. They must be made to see that as student nurses they can release to the military service many graduate nurses who would otherwise be needed at their home hospitals.

But that is not enough. In the opinion of the writer, the time has come to shorten the period of training for the duration of the emergency. How this can best be done, whether by omitting certain courses in affiliated special hospitals, or by more concentrated teaching in the general courses, must be determined by experts in nursing education. Should the course be made two years, or two and a half years? There again is a question for the experts.

It is to be hoped that these experts will place their country's need first and be prepared to sacrifice something in their course of training. After all, there is no teacher like practical experience. Nothing trains and develops youth like the responsibilities carried in war times. Nurses who participated in the last war will testify to this. There has been so much talk about the maintenance of "Standards" that it begins to sound as though this was placed ahead of the safety of our country and the maintenance of our liberties. There would be no high standards in a Nazi dominated world. Standards would be set by ruthless international brigands rather than by nurse educators. There are no finer women in the world than our nurses. The writer prizes his many friendships among them. But they must make concessions. The doctors are adopting a three-year medical school course, and their important intern and resident training is being cut from the former two to four years to one year. Colleges and preparatory schools are shortening their courses. The writer has full confidence that leaders in nursing education will show a similar readiness for patriotic sacrifices.

F. A. W.

What Can Our Hospitals Do?

Today every man and woman and every institution is expected to do more towards winning this war than merely to wave flags and pay taxes. Accustomed as our hospital people are to serving humanity, it is but natural that they are asking, What can we do in this crisis? For hospitals on the coast or in "vulnerable areas" where vital war industries exist, the answer is obvious. Such hospitals, it is presumed, have already planned for

the reception of casualties and the evacuation of patients; have laid out emergency quarters; have prepared for auxiliary power and water supplies; have organized medical and nursing "teams"; and have taken blackout and bombing precautions. In some cases the hospitals will have been asked to provide decontamination facilities. In all cases the hospitals should organize so as to function as a coordinated and fully integrated unit.

But what of you in hospitals away from the danger zone? What can you do to win the war?

1 In such hospitals you can continue your task of keeping civilians fit. Civilian health and morale are second only to that of the fighting forces.

2 You can give refresher courses in modern nursing technique to graduate nurses who have been retired or comparatively inactive and who are willing to get back into uniform.

3 You can train volunteers in the nursing and allied auxiliary fields.

4 You can train technicians, orderlies, ward aides and other personnel, as opportunity offers, to provide replacements for those called for military service.

5 You can economize in your use of drugs, bedding, and other supplies, by repairing rather than replacing, and by only buying what is essential for good service. By such means the shortage of supplies, equipment, and raw materials can be rendered less acute and more can be made available to the Government and to the Allies for the use and protection of our fighting forces.

6 Your women's organizations can donate part of their time and the use of their sewing room and other facilities to the preparing or packaging of gifts and comforts for the fighting forces.

7 Your personnel can render considerable individual assistance "after hours"; for instance, by giving first aid instruction, by acting as A.R.P. officials, by donating blood for emergency use, by working for the Red Cross and other war services, or by joining one of the part-time women's auxiliary services.

Every hospital and every last member of its staff has a war job today.

G. H. A.

Meeting Our National Emergency

In the great movement for defense through protection of public health, the hospital, with its opportunities for intensive work and its many points of contact with the community, occupies an important and strategic position. This war has lifted our work out of the humdrum of ordinary business and has inspired us to take inventory of our institutional and personal assets that we may do our share in providing for our country's defense.

Since that first meeting of hospital superintendents, forty-four years ago, we have had directed effort towards the development of high standards of hospital service and the establishment of necessary means to care for the sick and injured. The national emergency will undoubtedly cause certain changes in established standards, and hospital routine will have to be adjusted to meet the needs of our Nation at war.

The American Hospital Association is using every means in its power for the benefit of all hospitals to meet this national emergency and at the same time to maintain standards that will provide adequate hospital service for civilians and military forces.

The incidence of war emphasizes the vital need for an assemblage of all hospital people this year. In St. Louis next October, the national meeting of the American Hospital Association will be of great importance not only to the hospital field but to the peoples of the world. The program will be replete with subjects of deep concern to all hospitals and of absorbing interest to those who are struggling under many unusual burdens and almost overwhelming handicaps.

Added to the professional help is the friendship, fellowship, and the exchange of ideas that will stimulate our morale and strengthen everyone to take our part more fully in the present emergency.

A. S. B.

The New Trustee

A close affiliation with hospitals of over forty years may be considered an excuse for approaching this subject. No attempt will be made to cover what is indubitably a very wide field of trustee responsibility. The young trustee is prone to look upon his new investure as a semi-personal or group responsibility, the group being more or less

limited to the Board or his social and business acquaintances. Time only, in many cases, broadens his horizon of community relations. He gradually acquires a knowledge of the public financial, social, and health investment in hospitals. Almost all young trustees are business men, industrialists, lawyers, or other professional executives. Naturally they bring to their new field the viewpoint of the industrialist or business executive. In their early enthusiasm they often have conceptions of surveys, immediate audits and sometimes administrative reforms, particularly the latter if the hospital is running in the "red." Often many years will elapse before they acquire an understanding that hospital management is a special field without close relation to industrialism. Many thousands of dollars in the last two decades have been wasted in hospital surveys by industrially trained technical appraisers. Fortunately, experts are being developed in this field. Some young trustees enter the field with the belief that the administration and direct executive management of the hospital is poor. This may often be true. They are not always prepared to accept a physician or nurse superintendent necessarily as competent business executives, owing to their special medical training. Likewise, their knowledge of the professional work of the hospital is often limited. Research problems are seldom appreciated or understood. An astigmatic viewpoint may be generated by a close social acquaintance with one or more staff physicians. An entire lack of interest, or on the contrary, undue emphasis, if socially minded, may be early manifested in nurse or employee welfare. A hospital trustee should have a well balanced social consciousness.

Now and then the new appointee comes to the board with the feeling that his business might be benefited by his association with the hospital. The trustee is in the same position as an office holder in that his public relations should be a bar to commercial services to the hospital. These restrictions may apply more particularly to hospitals in large cities. In smaller communities where the board is largely made up of the local business men, avoidance of commercial relations is difficult and often fraught with jealousies. The young trustee is not familiar with "water over the dam." His proposals are seldom new. Older trustees have learned that acceptance of the recommendations of the hospital superintendent, or the chief of staff, in their special fields, are to be favored, unless early proven to be impractical. It is not to be expected that trustees, young or old in service, become hospital experts through attendance on trustee meetings, that will in most instances average six to ten annually. While an intimate acquaintance with hospital problems and details on the part of a trustee is desirable, it is seldom attained. Problems of hospital and related public policy, however, are responsibilities not to be avoided. Details of management should be left to a well chosen executive who should be held definitely responsible. A brochure might be written on trustee-hospital-community relations and responsibilities of which the above are necessarily fragmentary.

A Trustee

What Are You Doing to Win the War?

In times of national stress and emergency, it is essential that a people show capacity for decision and action. Problems must be recognized and then promptly solved. Willingness to work is necessary and commendable but results are what count and they cannot be attained without directed effort.

Now that this nation is confronted with the greatest crisis in its history, everyone agrees that each individual citizen must work harder than he has ever worked before. Everyone agrees that our American way of life must be preserved and defended at all hazards. But what are we doing about it? Our great abundance has made us the most wasteful people in the world and we rationalize this under the euphonistic term, "high standard of living." Even Pearl Harbor has not shattered our complacency sufficiently to make us realize that we cannot waste and win. Pearl Harbor has given us unity of intention, but will we have to wait for an invasion before we accomplish unity of effort and action?

Time is our most valuable possession and production our most urgent need. We are still wasting time and squandering words. Complacency will cost lives; selfishness will delay united action, and confusion may make us slaves. When asked: "What are *you* doing to win the war?" what is your answer?

C. G. P.

Our Hospitals Are on the Alert

The coming months will demand of hospitals and their personnel the very best that they can give under the stimulation of the intense war effort. Active support of those who are charged with the destiny of our country and the successful prosecution of the war is required of each one of us, and increasingly we shall be required to make adjustments to changed conditions which will involve for us harder work, longer hours, inconveniences, deprivations and sacrifice. All of this we can face courageously and cheerfully if we keep our eyes toward the goal—the swiftest possible victory over the foes of liberty and democracy.

The individual worker in the hospital must not lose sight of the fact that his personal effort and attitude count. To no reasonable demand for service should any of us turn a deaf ear if we are physically able to render it. Those who go to the front will fight valorously. Those who remain at home must match their spirit if the military forces are to have the proper backing. Valor will be necessary for one worker to perform tasks that perhaps two shouldered before, and to do it without complaint or letting down of standards. Hearts grateful for the blessings that we in America enjoy over all other peoples, will inspire us to show our thankfulness by plunging into the victory drive with all our powers and capacities. A part of our task will be to combat the indifference and lethargy which, if not directly fostered by our enemies, are enormously favorable to their ends.

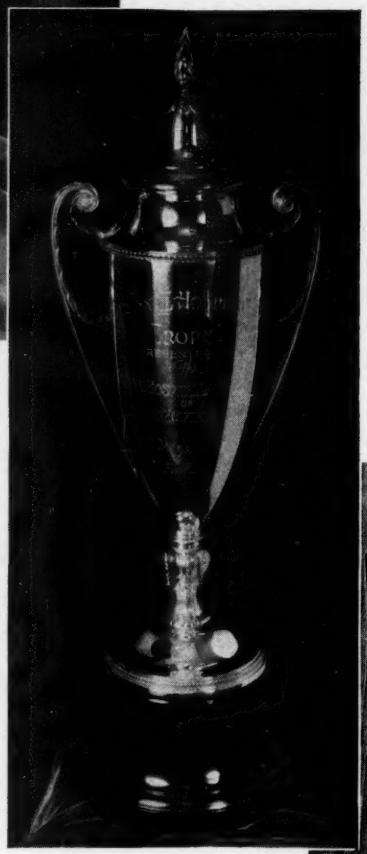
No institution will play a more important role in the war than the hospital. In the combat zones its personnel are protecting the fighters. At home they are active in civilian defense and in every activity that promotes health in the home, the school, and the shop, thus strengthening the nation. Every member of the hospital staff, wherever his duty may take him, must be on the "alert" every minute of the day, prepared to act in whatever emergency may arise. Every hospital in the United States is mobilized for civilian defense, ready to function efficiently should there be bombing, sabotage, or other disaster. A comprehensive plan of organization has been promulgated by the Office of Civilian Defense, so that executives, members of medical staffs, departmental personnel, volunteer workers and others, are not lacking in knowledge of what to do when action is required of them. Each has his place in the plan if he will look for it, and it is up to each one to promote national health and security by preparing to fill his niche well.

Some 67 general hospitals and 8 surgical hospitals in the United States have organized hospital units for service in the combat zones. Already three of these have gone into active service. Others are preparing to do so and may be called at any moment. Never in the history of hospitals has there been so thorough a mobilization of the health army—more than 7000 hospitals in the United States and Canada, with more than a million workers, striving to organize so that they may be truly "on the alert" and prepared when they are needed for military or civilian purposes. There are tragic events occurring throughout the world today, but offsetting them is this mustering of forces to bind the wounds of the injured, to relieve suffering, to conserve health and to save life—a wonderful emphasis on the role of the healer to nullify so far as he may the work of the destroyer. When the fighters at last lay down their arms, the healer will be granted no respite but must still go on in the great work of rehabilitation of the wounded and of holding and extending the gains in strengthening civilian health.

Thus the hospital in its wartime effort has the advantage over some other institutions in that it is working for more than the "duration." Its personnel will fight the good fight now with all their might and main—and will keep on fighting after the military victory has been won. Need for care of the sick and wounded will continue. Committed to serve that need, hospital personnel will never fail their country or their patients. In them they find their task clearly set. In serving them, they will find their glory and reward. The Government today is placing great confidence in hospitals and their personnel; we know that that confidence will be fully justified in the medical protection that will be rendered by the hospital and other trained hospital workers on both the home and battle fronts.

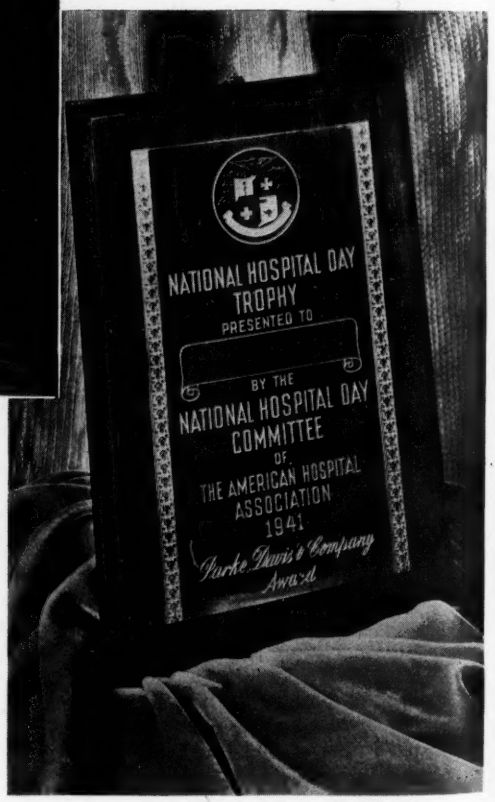
M. T. M.

1941 National Hospital Day Trophies and Plaques



The Huntington Memorial Hospital, Pasadena, California, of which Alice Henninger is superintendent, and the Glenwood Community Hospital, Glenwood, Minnesota, of which Dina Bremness is administrator, received the Parke Davis & Company Publicity Awards for 1941.

Each hospital received a cup and a plaque (shown at the right and above). The plaques will remain in their permanent possession. A hospital has to win three years in succession to become permanent possessor of the cup.



Each hospital that was a member of the Detroit Hospital Council, Detroit, Michigan, received the Parke Davis & Company plaque shown at the right.

Repair and Maintenance Order P-22 Replaced by Preference Rating Order P-100

A NEW order which helps many thousands of manufacturers and producing plants to obtain repair, maintenance and operating supplies was announced December 18 by the Division of Priorities.

The new order is known as Preference Rating Order P-100. It takes the place of the old Repair and Maintenance Order, P-22, which is being revoked.

The main purpose of the new order, as was the case with the old, is to extend priority assistance to manufacturers and producers so that they can keep their plants and production machinery in good running order. This is in accordance with the policy set by the Supply Priorities and Allocations Board.

To Clear Up Misunderstandings

The differences between P-100 and P-22 are largely technical. However, some provisions of the old plan have been liberalized and a number of clarifications have been made in order to eliminate misunderstandings and misapplications of the order which occurred in the past.

The assistance granted by the order is not available for retail operations. It is available, however, to the following:

1 Any governmental unit.

2 Any individual, partnership, association, corporation or other form of enterprise engaged in one or more of the following capacities to the extent that it is so engaged or so acts:

a—Manufacturing, processing or fabricating.

b—Warehousing—maintaining warehouses for storage or distribution of any material.

c—Wholesaling—acting as a distributor of products sold to manufacturers, wholesalers, retailers or other persons not consumers.

d—Charitable institutions—any charitable or eleemosynary institution which is recognized as such for purposes of the Internal Revenue Laws of the United States.

e—Carriers—urban, suburban, and interurban common or contract carriers of passengers or freight by electric railway, electric coach, motor truck or bus, including terminals of any of the foregoing; railroads, including terminals; shipping—commercial carriers of freight and passengers by ocean, lake, river or canal, including terminals.

f—Educational institutions (including vocational training).

g—Printers and publishers.

h—Radio — commercial broadcasting and communication.

i—Telephone and telegraph communication, including wire services.

j—HOSPITALS, CLINICS, AND SANATORIUMS.

k—Petroleum and natural gas—discovery, development and depletion of pools of petroleum and associated hydrocarbons and derivatives thereof, and transportation of petroleum, associated hydrocarbons and derivatives thereof.

l—Irrigation systems, whether publicly or privately owned; toil bridges and toll canals.

3 Any person using tools or equipment to repair or maintain the property of any Producer as defined in the Order.

P-100, like the former P-22, continues the policy of protecting the health of the Nation and main-

taining necessary services for its businesses and institutions.

Inventory Dollar Allowance Boosted

The former restriction on acceptance of materials for inventory of maintenance, repair or operating supplies by producers using the order has been changed to permit inventory and stores not exceeding 110 per cent of the maximum dollar volume of such materials purchased during the corresponding calendar quarter of 1940. The previous figure was 100 per cent.

This change has been made to allow for price increases. However, the Order now specifically states that no materials may be accepted for additions to inventories and stores of maintenance, repair and operating supplies until such inventories have been reduced to a practicable working minimum.

Exemption Broadened

The restriction on withdrawals from inventory or stores has also been changed to permit withdrawals up to 110 per cent of the aggregate dollar volume of such withdrawals in the corresponding quarter of 1940, or, at the producer's option, up to 27½ per cent of the aggregate dollar volume of withdrawals during the calendar year 1940.

Producers whose aggregate purchases of materials for maintenance, repairs, and operating supplies do not exceed $5000 in a calendar quarter, and whose withdrawals of such supplies from inventory or stores likewise do not exceed $5000, are exempt from the restrictions as to purchases and withdrawals. Under P-22 amended (the former order), the exemption was limited to producers whose purchases and withdrawals did not exceed $2500 in a calendar quarter.

Method of Use Explained

Any plant or business qualified to use the rating can do so without making application for its use. If a manufacturer needs a repair part, for example, he simply places his repair order with a supplier and on the face of the order manually signs the following statement:

> "Material for Maintenance, Repair, or Operating Supplies — Rating A-10 under Preference Rating Order P-100, with the terms of which I am familiar."

This constitutes legal use of the rating. Any order so rated must be accepted by the supplier in accordance with the terms of Priorities Regulation No. 1. The supplier may extend the rating in the same manner, if necessary to obtain materials going into the producer's order. Suppliers may use the rating for their own repair and maintenance needs, of course, if they are qualified to do so under the terms of the order.

A supplier who does not physically alter parts which he supplies to another is permitted to group several orders together so as to purchase in a minimum commercial quantity.

Purchase orders for repair, maintenance, and operating supplies bought under the order must be made up separately from all other orders.

Dr. William D. Cutter

Dr. William D. Cutter, Secretary of the Council on Medical Education and Hospitals of the American Medical Association, died of coronary thrombosis, January 24 at the age of 63 years.

Doctor Cutter was one of the leading medical educators in our country. He had been a member of the faculty of the College of Physicians and Surgeons, Columbia University, secretary of the Board of Medical Examiners of New York State; member of the faculty of the University of Georgia; dean of the Post Graduate School of Medicine, New York; dean of the School of Medicine of the University of Southern California; and since 1931, has been Secretary of the Council of Medical Education and Hospitals.

Few men have contributed more to the advancement of medical education than Dr. William D. Cutter. He established and maintained sound principles of intern and resident training. He coordinated the work of the medical student from his collegiate years through the education of the medical graduate in the hospital services.

Doctor Cutter served the cause of medical education with an undivided interest and devotion. How much the medical graduates of the past ten years owe to him and his work as an educator cannot be estimated. One thing is certain, that during that period the quality and worth of the medical graduates has immeasurably increased.

Through the sound administration of his Council he earned and maintained the confidence and esteem of the medical student, the graduate, the colleges of medicine, and the hospitals. He was an ornament not only to his profession but to the field of medical education in this country.

A Unique Hospital Laundry Installation

P. GODFREY SAVAGE

THE operation of a hospital laundry supplied with steam by an electric steam booster is probably not a familiar arrangement and to the writer's knowledge the one described is a unique installation.

For many years the Niagara Falls Memorial Hospital was served by a commercial laundry, supplemented by a small hand operated laundry for special purposes. This was quite practicable because a local condition made favorable rates for the service and the cost for converting the heating plant to a high pressure system was not altogether feasible. Likewise, there was the consideration of the higher operating costs for a high pressure plant which would offset to a large extent any savings in the operation of a hospital laundry.

Normally, this argument could be set aside on a long term basis and the use of high pressure steam in the sterilization of supplies in the operating room is usually sufficient reason for such steam service. However, the local situation favored the use of electric units for producing high pressure in the autoclaves to meet the requirements in the sterilization of surgical supplies and this type of equipment has been used throughout the hospital. The rate for electric power in the hospital averages .008 cents per kilowatt hour.

Steam Compressor Installed

When it was finally decided that the time had come to install a fully equipped laundry in order to meet the increasing needs of the hospital it was natural to seek a means to obtain high pressure steam in some way to retain any special advantages already established. After careful study, it was found practical to install a Worthington 10x11 steam compressor, served with a fifty horsepower motor to operate the equipment for this purpose. This machine receives steam at about 10 pounds pressure and discharges steam at 100 pounds pressure. The pressure is equalized in reservoir tanks so that the steam is delivered at a constant pressure to the laundry.

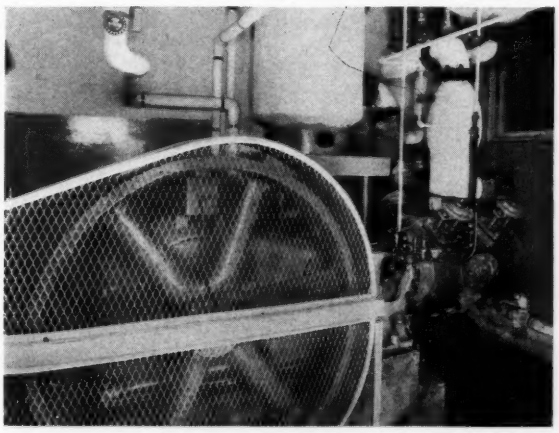
The compressor was placed in a small room adjoining the laundry and the foundations were set on bed rock. The heavy cement support of the compressor itself, however, was separated from the foundation by means of cork strips one inch in thickness so that the machinery is practically suspended in a "cradle." Likewise, the incoming and outgoing steam lines were equipped with flexible woven metal vibration eliminators so that any movement of the machine is not transmitted along the pipe lines. As a result, the jar from the compressors which is often noticeable in industrial plants, cannot be heard or felt outside the building and is hardly noticeable in the kitchen and dining room above.

The Author

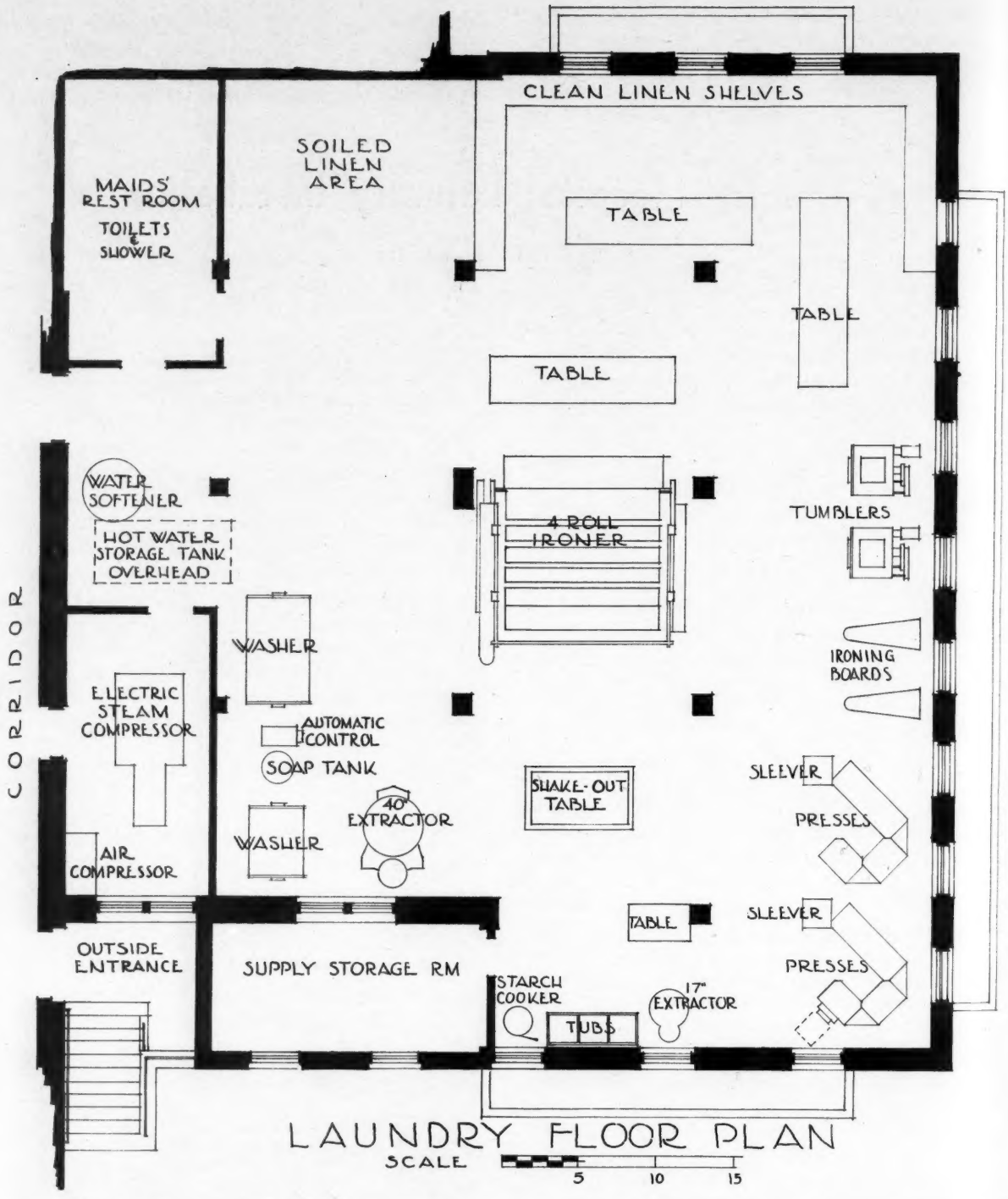
● P. Godfrey Savage is Superintendent of the Niagara Falls Memorial Hospital, Niagara Falls, New York.

Location of the Laundry

The laundry is located on the ground floor but there are nine full sized windows on three sides giving effective daylight during working hours the greater part of the year. The walls are constructed with glazed yellow brick, from the floor to the ceiling, and all of the laundry machines and equipment are finished in ivory. The ceiling



Electric steam booster, to operate steam supply



and all pipes are also finished in ivory. The resulting effect is attractive and conducive for good work.

The placement of the machines has been so arranged that the flow of work is kept to the right as the soiled linen arrives in the department. The compressor room is located in one corner of the area and a rest room for the employees in the other corner of the area as shown on the plans. These spaces to the right and the left, 10x18 each, account for a reduction of area of only 360 square feet from the total of 2500 square feet.

Equipment

The equipment consists of one 42x64" washer equipped with a full automatic washing control device; one 36x36" washer for special service;

one 40″ extractor, open top type, with mechanical timing device and automatic brake; one 17″ extractor for special services and starch work; two 36x30″ drying tumblers, open end type; one 120″ four roll flat work ironer with spring padded rolls, vacuum and exhaust features so that no over-head canopy is necessary; two general purpose press units with sleeve forms; two ironing boards with equipment, and supplementary supplies such as metal wet clothes trucks, damp tables, folding tables, clean linen shelves and portable baskets. An adequate space was also made available as a storeroom so that all supplies are kept within the laundry. An 8000 gallon service hot water tank was installed and an 18,000 gallon service water softener.

This equipment was placed in service in the summer and the following cost records are subject to verification with more experience. However, in view of the first cost, the record seems very good and is given as indicative of results that might be obtained under similar conditions elsewhere.

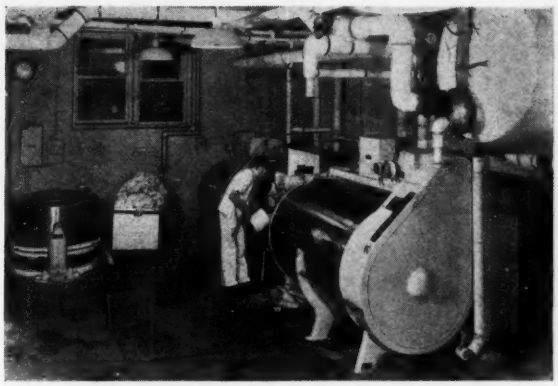
Cost Records for Three Months—Old Arrangement
August, September, October 1940

Wages for small hand worked laundry	
Six girls and part of housekeeper's time	
(Nurses' uniforms, blankets, infant wear and some personal wear for nurses)	$1200.00
Commercial laundry account	
(Heavy load of hospital requirements)	3688.78
Supplies for the small hospital laundry	90.20
Electric power, steam, depreciation, etc.	
(No charges for these items made in records)	.....
Total recorded cost	$4978.98

Cost Records for Three Months—New Arrangement
August, September, October 1941

Wages for laundry workers	
One washman, 1 assistant washman, 1 supervisor, 9 girls, 2 linen room workers	
(Entire laundry service in this department)	$2232.50
Commercial laundry account	
Rental of white coats	33.74
Supplies	
Soaps and chemicals, ironer, and press pads, roll covers, oil, etc.	314.68
Electric power at .008 cents per kilowatt-hour (average for entire use)	
Electric service for laundry metered separately for study	193.00
Steam, supplied as drawn by compressor	
Charge for extra supply of coal as against the same period in 1940 because no change in boiler room practice was required	118.00
Reserve for replacement of equipment	
Ten per cent or $27,000 cost of equipment and installation	810.00
Total recorded cost	$3701.92
Difference in cost of laundry service (3 months of 1940 and 3 months of 1941)	$1277.06
Indicated saving for year	$5108.24

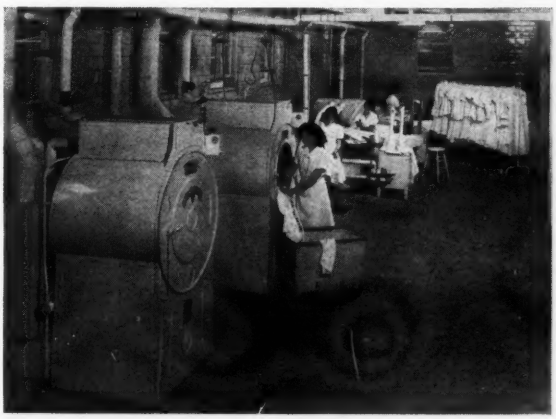
From this comparison it would seem evident



Washers, automatic control and extractor

that the department is a profitable installation and that definite savings have been made in its operation. More accurate findings will be possible after a longer period of study but on the basis of approximately 1400 pounds of laundry a day, these costs indicate .029 cents per pound. Any advantages in the distribution and life of the linen are apart from this record. Of course, it should be borne in mind that this type of installation is rather special and depends in a measure on the low electric service charges which prevail in Niagara Falls. Likewise, the steam compressor produces high pressure steam only as required and this results in a maximum of economy in the reduction of heat losses. With all new equipment and models designed so that each one serves the next machine other advantages and efficiency are obtained.

Where similar conditions exist it may be of interest to study the possible use of an electric steam booster as a means of obtaining high pressure steam for the laundry. This makes it possible to operate the general heating system on low pressure with fuel economy and at the same time fulfill the requirements of modern laundry machines.



Tumblers and presses, showing light color effects

Doctrine of Exemption as Influenced by Practical Considerations

THE evolution of that doctrine of our law, which exempts charitable corporations, or associations, from liability by reason of the acts of negligence of their employees is by no means complete. However, within the years from 1900 to the present, there have been changes in the law, ranging from subtle, scarcely noticeable expressions of the courts, to plainly written detailed statements of judicial policy which have firmly accelerated the evolutionary process.

Two factors may be said to have been of positive influence in working out that evolution, and they are: first, dissatisfaction of courts, legal scholars and commentators, together with laymen, with a rule of law which is contrary to our fundamental concepts of justice; and, second, the knowledge that many charitable corporations in fact do not practice charity in the accepted, understood sense of that word. A third factor, only recently noticed, is the knowledge, generally, that charitable institutions avail themselves of the benefits of public liability insurance, and a fourth influential factor is to be found in the fairly widespread organization and operation of plans for hospital care.

Protection of Charitable Bequests

The doctrine of exemption from liability has, as one of its purposes, the protection of charitable bequests from possible dissipation by way of payment in satisfaction of judgments rendered against the association or corporation receiving such bequests. It is thought that to permit satisfaction of those judgments from the funds of a charity would be to deter persons of philanthropic inclinations or intentions from giving of their money and property to institutions organized for charitable purposes. Just how much reason lies behind a policy of this kind cannot be ascertained with accuracy because of the very existence of the rule in a majority of the states; therefore, no opportunity has been permitted, by reason of the law, to determine whether a person would or would not contribute if he knew that his contributions would be subject to payment by the charity in satisfaction of a tort judgment, based upon the negligence of its employees. Then, in those states (a minority group) which favor the imposition of liability upon charitable corporations, no surveys have been published in an attempt to show whether such imposition effectively acts as a deterrent, or even influences possible donors as to their giving of money or property to the many charities functioning within their borders.

It is questionable whether at any time a donor, when impelled to contribute to a charity, gives thought to the question whether his gift is to be used by the charity for the payment of a tort judgment. As indicated by one of our courts, the truly charitable giver would probably desire that his funds be used in redress of a wrong done by the charity rather than to know that the charity could not be made to respond to that wrong by the payment of money damages. These attitudes suggest, in part at least, that there is no reason behind the rule of exemption, and that, with no reason to support it, the rule should fall. However, it must be recalled that few of our courts have been willing to adopt a rule of law which would absolutely impose liability upon the charity. At the same time, some of the courts admit that the policy of exemption, while contrary to the fundamental concepts of our law, is better policy than to impose liability generally, probably upon the theory that it is more reasonable that a few should suffer from inability to redress wrongs suffered by them than that all charities should suffer depletion of their funds by way of payment for having committeed those wrongs. Such few considerations have been made the bases of many editorials and comments in the law journals by legal academicians and by commentators generally, and it goes without saying that those editorials have been aptly brought to the notice of many of our courts in the briefs of attorneys representing litigants who were attempting mightily to upset the rule of exemption.

A Charitable Institution Must Be One in Fact as Well as in Name

In some few instances litigation has brought to light the fact that an institution, supposedly charitable, dispensed such a small amount of actual charity as not to be entitled rightfully to be classed as such, although it was regularly incorporated under the law as an eleemosynary cor-

poration or association not for profit. Such instances have led the courts to hold that a charity must be one in fact as well as in name, and have further caused to be projected rather searching inquiries as to just how many charitable acts are performed yearly by organizations operating under charters or articles of incorporation applicable only to eleemosynary institutions.

The inquiries will likely become more keen, especially since it is known that many charitable institutions accept paying patients and that they make charges for services whenever possible, although the courts have almost uniformly held that the fact that a charity charges some persons for its services does not thereby change its status from that of a charity to an organization for profit. Then again, the fact that charitable corporations operate some of their departments upon a pure profit basis has caused some courts to adopt the view that a judgment might be satisfied, pro tanto out of such funds as are the result of profit, or, out of such funds as are not exclusively used in furtherance of the purposes for which the charity has been organized.

Another factor, not often mentioned in litigation, but of some potency, nevertheless, is that attitude of some few dissenting courts that to apply the doctrine of exemption is to beget and encourage carelessness in the operation and management of the charity. Statistics are not available to prove or disprove the soundness or lack of soundness of that attitude. However, it is sufficient to point out that there are far too many cases of negligence reported annually, considering the total number of hospitals, and considering further the many improvements in operative and nursing technique which are brought forth each year. Again, it is not to be forgotten that many cases of negligence on the part of charities never reach the stage of advanced litigation where they would appear in the form of printed decisions of our courts.

Carrying Liability Insurance Has Had Influence Upon Doctrine of Exemption

The widespread availability and, in many instances, the carrying of public liability insurance has been of considerable influence upon the doctrine of exemption. Some courts have held recently that where a charity carries such insurance then a judgment against it, based upon its negligence, may be satisfied out of the proceeds of the insurance policy. Obviously, such holdings do no direct violence to the rule of exemption since the judgment cannot be satisfied from the funds of the charity, used by it in furthering the purposes for which it was organized.

Revenue Through Plans for Hospital Care May Affect Doctrine of Exemption

Extension of plans for hospital care into many communities has provided for hospitals a source of revenue not available before inception of the original plan. It is reasonably to be assumed that as plans are made more accessible hospitals will be enabled to secure increased revenues with a consequent lessening of actual charitable dispensations. While the impact of these plans has not as yet been demonstrated as actually influencing the decisions of any courts, it is thought that in time there will come such a demonstration as has been noted in the case of public liability insurance. With the offering of such benefits to individuals is bound to come an increase of fully paying users of hospital services, and such an increase in revenues will, in time, be apparent in some litigation before our courts.

Thus there will be presented to a court a novel question, the answer to which may further influence the evolutionary process of the doctrine of exemption. It is conceivable that some court may determine to hold that because of the increase of revenues from such sources, the particular institution involved in litigation does not need the protection of the ancient doctrine of exemption. Now, admittedly, such a suggestion is speculative; but, at the same time, there was speculation as to what pronouncement courts might make in cases where the issue of public liability insurance was squarely presented by the litigants. For that reason alone it is fairly to be assumed that some of our courts may give decisions which will bring new learning to the law, and which will further constrict application of the rule which has made impossible, generally, the imposition of liability upon charitable hospitals.

Chicago Selected for 1942 Clinical Congress of the American College of Surgeons

Because of the war, the thirty-second annual Clinical Congress of the American College of Surgeons will be held in Chicago, October 19 to 23, instead of in Los Angeles as originally planned. Headquarters will be at the Stevens Hotel. The twenty-fifth annual Hospital Standardization Conference sponsored by the College will be held simultaneously. The programs of both meetings will be based chiefly on wartime activities as they affect surgeons and hospital personnel in military and civilian service.

Group Hospitalization Among Farmers as a Public Relations Medium

HELEN BRANHAM

GROUP hospitalization among farmers as a public relations medium challenges the hospital administrator in numerous ways. This group represents the most substantial type of citizen in this country. Through its efforts, the ground produces and provids food for the body—and money for the bank.

The farmer is not quick to make up his mind, but when once he does he is also reluctant to change it. This we see in the South, especially in the cotton section, where the farmer has been slow to change and put more of his land into other crops. It has taken patient efforts on the part of the farm agencies to get a farmer, little by little, to change his planting routine, and then he points with pride to a field or a patch of something new. Just as the County Agent and the Home Demonstration Agent, with their friendly manner, first gain the farmer's confidence, then demonstrate that his farm can produce other things than cotton, so must the hospital administrator, first through a friendly attitude and an understanding of the rural population's problems, gain his confidence and demonstrate that when a member of his family or one of his tenants falls ill and the doctor says John must go to the hospital, that John is not falling into the hands of enemies but of friends who understand his problems and will take care of him.

Rural Attitude Toward the Hospital

A trip to the hospital is an event in the life of any person, and even more so for a person whose work keeps him from having the daily contacts that his city friends have. He is accustomed, when there is sickness at home, to have all the neighbors come in and lend a hand. It has only been since the coming of good highways that the sick in rural districts could be taken to a hospital. Who among us has not heard one of the older surgeons tell about operating on the kitchen table, by the light of a kerosene lamp or perhaps a pine knot? Going to the hospital belongs to the new age.

What happens when the farmer does go to a hospital? First, he wants to know what it is going to cost him. The figure is startling. All of the time he is thinking how far that amount would carry him on next year's crop. He will have to sell that fine yearling he has pastured out as a start for a better herd of cows, or he can not get the registered bull he wants, or something else to improve his farm. Willingly, though, he parts with these dreams, sells the yearling, empties his sock, and goes back home. This is a memorable occasion, one of great significance. During the off season, that is when crops are growing and not being sold, the farmer is hard put for cash. He expects this, but when sickness comes along it is something he does not expect. He finds extra money difficult to get but he does not lose his fighting spirit. This is the type of citizen who makes up the greatest part of our clientele. These farmers are the people in our community who are coming to us through the front door and through the clinics. These are the people we are here to serve. These are the people who need group hospitalization benefits. What have we done to strengthen our public relations with this group?

Teaching the Farmer the Value of the Hospital

Preceding the set-up of our Hospital Service Plan, the women of the town organized an auxiliary for the hospital, bringing in the different rural communities and other towns within the area to be served by the hospital. Women who were active and well known in their communities were selected as committee chairmen and as members. Through this channel people learned about the hospital, how it functins, visited the institution, were asked to contribute plants for the grounds and canned goods for the pantry. They were invited to meet and know the people who made the hospital possible for the community. They were made to feel at home when visiting a

The Author

● **Helen Branham is Administrator of North Mississippi Community Hospital, Tupelo, Mississippi.**

Presented at the American Hospital Association Convention, Atlantic City, 1941.

sick friend. The first step then was education of the people in what the hospital is and what it means to the community.

In the fall after the Hospital Service Plan was put into operation in July, the director of the Plan, with the hospital superintendent, visited the various rural groups of the Auxiliary. They also were present at the fall open meeting when the members from all sections came together. At this time the director of the Plan made another informal talk and answered many questions. By this time there were quite a few beneficiaries scattered throughout the area. They are the best advertisement and the best hospital service plan salesmen we have.

Securing this service for the regularly employed man, whether in a store, office, shop, or factory is rather simple, but for the farmers it is more complicated. The rural membership is growing. Some are coming in through town groups where a relative or good friend works. There are others in groups in stores located in rural communities, and in smaller banks. There is keen interest in this way of paying a hospital bill by the rural population. They no longer fear the hospital but now think of it as a place to get well in and not to die in as once they did.

At present the F. S. A. in our county has under consideration including in the budget of all F. S. A. families who so desire it, group hospitalization for all of the family. A worker who was in my office recently stated that in 1940 she had 61 families in the group medical and out of 438 families on her list in 1941 she had 381 in group medical. She expects the proportion taking hospital service will be in the same proportion the first year with a similar increase the next.

In Conclusion

In conclusion, I would say group hospitalization among farmers presents an excellent medium for public relations. So closely is public relations linked up with group hospitalization, that it is hard to separate them. The same principles must be followed in the rural communities as in the urban. With good county roads and fine highways, news travels fast. Keep your hospital and your group hospitalization plan before the community by using the county papers, through the work of an active woman's auxiliary and by observing National Hospital Day and Homecoming Days of various kinds. Point out to the farmers the advantage of hospital bills paid in advance when his crop money is in the bank.

Last but not least, give the public service and the public will give you work. Have a sound economical group hospitalization contract and the farmer will buy.

Analysis of "A Hospital Service Plan in a Small Community" by Dr. Franz Goldmann

(*HOSPITALS*, January 1942)

I was shocked to read Doctor Goldmann's article outlining the development of a Group Hospital Plan in Tupelo, Mississippi. Doctor Goldmann states that "In Tupelo, Mississippi, a successful attempt has been made to build up such a plan" (a plan for rural and semi-rural districts). If our experience is in any way a criterion, the Tupelo plan as described by Doctor Goldmann has a doubtful future, due to glaring underwriting weaknesses:

> "The plan is open to people applying in groups of five or more regardless of race, occupation, income and age . . . five widows living on savings may join as well as people employed by a business establishment. Neither medical examination nor confidential reports are prerequisite to enrollment . . . chronic conditions . . . usually are taken care of after . . . six months."

With maternity benefits provided after a ten months waiting period and with 50 per cent allowance in admissions for diagnostic, laboratory, x-ray, and emergency service not requiring hospitalization, increased utilization can be anticipated as present subscribers become eligible for service and as the public realizes not only the benefits that may be secured but also the simple requirements for enrollment. Since the plan began operation on July 1, 1939, experience in 1940 is in no way indicative of the future. Despite the age of the plan, the rate of utilization in 1940 was approximately the same as ours. Their current success is due to the fact that their average length of stay is very low—4.8 days as compared with 9.88 days for the AHS. However, as to average length of stay, it is significant that "in general more people come in for thorough check-up or slight illness."

Allen B. Thompson
Underwriting Department
Associated Hospital Service of New York

The Special Diet Kitchen – Is It Necessary?

DOROTHY DE HART

THE necessity for the special diet kitchen depends a great deal on the individual hospital, and the facilities available. There are many "if and ands" to the subject. Much depends on who is responsible for serving trays and who supervises the service. If dietitians are supervising, fewer will be required in a towering hospital, where they may go from floor to floor easily, than in a rambling hospital, or a mental institution in which doors must be unlocked and locked.

At Roosevelt we did not think the special diet kitchen was necessary and have worked toward eliminating it since 1935, but not until our new building program was a realization in 1940 were we successful in making the change. The building in which the diet kitchen was situated was torn down, so we either had to move the diet kitchen or find a substitute.

Student Nurses Serve Special Trays

Our contention has been that from the viewpoint of the student nurses we could make their work much more interesting, useful, and practical if they were allowed to remain on the floors as diet nurses and receive their instructions on practical diet therapy directly in relation to the patient.

Since corrective diets are based on the variation from the normal the nurses get much more correlation of theory and practice if they actually do the planning, ordering, serving and follow-up work under supervision. It gives the student nurse more responsibility, which the majority of them readily accept, and it allows the nurses to see the complete special trays which they do not see when the food is sent up unassembled from a special diet kitchen.

We have a dietitian's office on the floors. This makes her more directly available for the doctors and nurses, when they want to secure information regarding diets.

As we are working at present, we have four student nurses who stay with us for a period of eight weeks each. Through the cooperation of our training school our quota of four is kept at all times; when there is sickness a substitute is sent. This is absolutely necessary when the work is thus divided.

Our ward pavilion has nine floors housing 315 patients and our private pavilion has four floors housing 51 private and 33 semi-private patients.

The problem of serving special diets has been aided by having the diets more or less concentrated on the medical floors with only a few on the surgical floors.

The charge nurses or their assistants have always been responsible for serving trays and they continue to do so. The student nurse sets up and serves only the special diets and these are checked by the dietitian or head nurse.

Special diets for the day are made out one day in advance by the student nurse and checked by the dietitian. All special diets are based on the general and soft menus. The food for these diets along with any special food required is prepared in the main kitchen and is transported to the floor pantries in heated food trucks with the regular food.

Food is Sent to the Floors in Bulk

The food is sent to the floors in bulk. The weighing etc. is done in the floor pantries. Special hot orders are sent in the heated drawers in the food truck. Cold orders are placed in the space below.

Incidently, the slips from which the cooks work for the ward service are made in the dietitians office on the floors. The diet nurse fills in the requirements for the food that is needed. The slips are headed according to items on the menus plus the extra food items. The floors are listed along the side of the slip. Then all the nurse has to do is to fill in the number of servings of each item she wishes. If she needs 10 servings of mashed potatoes without salt these are listed accordingly and prepared in the kitchen by the regular cooks. The same thing happens for our allergy diets when items of food are needed without milk, eggs, etc.

There are some items which require separate attention, such as especially made dishes, gavage diets, etc. These are taken care of in the main kitchen by our special diet cook.

Saving in Personnel

When we closed our special diet kitchen in which we required a maid and one to two aides,

The Author

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Presented at the American Hospital Association Convention, Atlantic City, 1941.

besides a truck boy, we had to add one to our cooking staff in the main kitchen in order to handle the added work. Yet savings were realized in personnel, as:

One maid	$ 58.50 and meals
One aide full time	60.00 and meals
	118.50 per month
One aide part time	30.00
One truck boy part time	29.50
	$178.00
Special cook	74.00 per month

Saving in Food and Equipment

We also realized a savings in food under the new system. Previously, the meat and vegetables were cooked in the main kitchen and then taken one-half block by the truck boy to the diet kitchen. There the food was weighed or portioned out into separate containers for each patient, placed on trays and taken to the wards. Here in order to assure that the food was sufficiently hot the containers were set in a hot water bath until served.

This method required double handling, extra containers, special service by the truck boy, and food waste, for it was difficult to judge the exact amount of food required for purees, etc. We also used wax paper and lily dishes extensively because the food was transported in an open truck.

The savings in other equipment such as pots, pans, utensils, china and silver, I am unable to calculate and you can no doubt imagine the saving in floor space, large equipment such as stoves, refrigeration, sinks, etc. Even the use of gas and electricity has been reduced.

One factor we do know and that is when the architects planned a new diet kitchen our allowance for it was somewhere in the neighborhood of $18,000—and this too we have put to better use.

Personnel Schedule

Now we have alloted our nurses so that one student diet nurse is in charge of two or three floors depending on the number of special diets on the floor. The nurses are rotated during their stay in the dietary department so that they are on the medical, surgical, children's and private floors.

The student nurse, besides serving, notes returns on the trays, charts, visits patients and has three group conferences a week with the dietitian. She makes rounds with the doctors, calculates and formulates diets and does the daily ordering as stated before. Three times a week she orders staples needed for the pantries.

The dietitian on the private pavilion assists in checking trays at meal time on the wards since the private floors are served one hour later than the wards, and then too we have fewer special diets on our private pavilion.

We have succeeded so far in changing our system with the elimination of personnel but we really should use another dietitian for we have no one except the head nurse to check and supervise when the dietitian is off duty or when she is checking the other floors and of course we feel that much better supervision could be accomplished with the dietitian, whose job it is to watch and teach details in meal service. One of our dietitians is the teaching dietitian and clinic dietitian as well, so that several days a week she is not available for checking trays. Not to be forgotten is the fact that dietitians also have time off duty, which narrows our supervision exceedingly.

Plan Has Proved Practical

This method of service is really a means of making more divisions and some may compare it to changing from the central service method of serving food to floor service and thus call it poor management in that it is a splitting of responsibility. We do not feel that this is true, for in spite of our handicaps we are confident that it is much more desirable than our former diet kitchen and with another dietitian we feel our advantages would be definitely superior. The students themselves are really enthusiastic over it and those who worked with us during the interim when we changed over were high in their praises for the new method of handling special diets.

There may be some hospitals which are greatly spread out and others where there is central tray service where the plan would not work, but I am sure much could be accomplished if dietitians really thought about it and worked on the subject and had cooperation from others. Of course a plan such as this also presupposes that there is a dietitian in charge of the main kitchen.

This is not the first time this plan has been tried. Miss Katherine Mitchell tried it back in November 1927 at Michael Reese Hospital in Chicago and proved its worth and many others are working along this same plan.

In some larger hospitals where many diabetics are handled they feel they should keep them separate but I believe they could be handled adequately in the main kitchen in most cases.

After all in many of our smaller hospitals they have no other means of serving special diets except directly from the main kitchen. For value received I say that the special diet kitchen, in general, is not necessary.

Surgery in Community Control of Tuberculosis

THOMAS B. AYCOCK, M.D.

AT THE beginning of this paper I know of no better illustration than that used by Evarts A. Graham. In the second paragraph of his Judd Lectures in 1937 he quoted from Paget's book[2] as follows:

> "It is sometimes said that surgeons fifty years hence will think as little of our results as we think of the methods of fifty years ago. As far as regards the surgery of the chest, this is utterly untrue. Fifty years ago it had arisen above the horizon, it is now nearly at its zenith. Indeed, it is possible that we may see its upward movement checked."

Over forty-five years have passed since that statement was made and, in spite of unforeseen progress that has been made since that time, it is now evident to the majority of us that surgery of the chest is only in its early or first stages.

It is apparent that progress made in surgery in relation to pulmonary tuberculosis alone has resulted in the daily restoration of many to health. This statement not only entails being saved from an early death, but I believe by means of modern surgical treatment thousands have been enabled to return to their homes to do some type of useful work. Equally important is the fact that they cease to be a menace to their relatives, friends, or themselves because they do not harbor sputa loaded with tubercle bacilli in their bronchial passages. It is interesting to note that many surgical procedures have been tried in an effort to make this possible, such as the insertion of packs, severance of nerve trunks, removal of diseased lung tissue and similar methods. It should be remembered that in spite of these measures, up until the present time the only accepted procedure that promotes the healing or arrest of the diseased process is rest or relaxation of the diseased tissue in question. Such a treatment is better known as collapse therapy. The major portion of this progress has been accomplished by staying outside of the parietal pleura or within the pleural cavity.

Presented at the American Hospital Association Convention, Atlantic City, 1941.

The Author

● **Dr. Thomas B. Aycock is Professor of Clinical Surgery, University of Maryland School of Medicine and Chief Surgical Consultant, Maryland Tuberculosis Sanatoria, Baltimore, Maryland.**

Thoracic Surgeon Must Render High Quality of Service

To my mind the most important role played in the control of tuberculosis by surgical means is the quality of service rendered by the thoracic surgeon himself. He must himself represent the ideals, service, sacrifice, skill, research, authorship and a fundamental grasp of his chosen field to the same degree that is required in any other branch of the surgical specialties. Indeed, let me say, I believe he must rise above the standards of the average surgeon. Success in his field is only achieved by sacrifice and long years of work and study. Such a surgeon will attain a higher standard than that maintained by many who are now engaged in this type of work.

Surgery in the upper strata in any of the various fields has its own moral and professional codes, and the standards are high. In the field of thoracic surgery certain characteristics are demanded and definite rules of conduct must be followed. If I were to make a list of the qualities he should possess I would mention responsibility, honesty, courage, dependability, skill, decency, thoughtfulness, kindness, sympathy, gentleness, judgment and a host of other desirable characteristics. Responsibility should definitely head the list as the most important. Such a man is generally where he ought to be and doing what he should do. His ethics are never questioned. He undertakes no services on his patients for which he is unqualified. He is a known student. He is in touch with the leaders of his profession and learning from them, and what he learns he is willing to disseminate among his colleagues. He is posted upon the advances in his field and is not

easily led astray by false doctrines or by overenthusiastic advocates of new and unusual procedures, but intelligently and honestly evaluates and selects that which gives promise for the public good. He is looked to for advice by public authority, professional colleagues, and contemporaries, and last, but not least, he is a man whom his patients trust, not only for his skill but also for his honesty and sincerity.

Training for Thoracic Surgery

Since we now have a brief outline of some of the characteristics that the thoracic surgeon must possess, let us turn to his training. This is an important point to emphasize because of numerous conditions that exist and varied obstacles that stand in his way. These adverse conditions are present in a great many tuberculous clinics throughout the country. At the outset let me say with emphasis that surgery of pulmonary tuberculosis is a difficult problem. One should acquire expertness in diagnosis, experience, and a thorough knowledge of the anatomy and physiology of the thoracic cavity and its contents. He should also be acquainted with the usual response to pathologic conditions that may arise both before and after surgery is instituted. Such a knowledge can only be gained by a long apprenticeship in the anatomic and physiologic laboratories and by a long period of observation supervised by a well trained surgeon.

Unfortunately, there is too much active surgery in this important field without an adequate preparation on the part of the operator and without having acquired sufficient knowledge of indications. For example, I have heard it said in recent months by surgeons active in the field that phrenic operations are never indicated or that it is unnecessary to do an anterolateral thoracoplasty. The author of a recent textbook on the subject devotes two paragraphs to the theory that it is sometimes unnecessary to remove the first rib in performing a successful thoracoplasty in order to close some cavities. Such a statement may be true in rare instances but may cause the timid and inexperienced operator to hesitate when removal of the first rib is essential. Many thoracoplastics are still being done in which one to four inches of the posterior ends of the ribs are left intact. Too often the inexperienced surgeon begins to do thoracic surgery as soon as he feels he can find the phrenic nerve. Too frequently he gives no thought whatever to the indications for the procedure.

In the hands of trained surgeons the operation itself is usually a simple procedure. Unfortunately, however, these patients are not always referred to the best trained surgeons in the community. This may be due to the political or social influence of some well known general surgeon or group of surgeons. In addition, the surgeon may find it impossible to earn a livelihood if he spends too much time doing this type of work. The surgeon who does tuberculous surgery must depend upon the sanatoriums to furnish patients and in the majority of instances, many of these institutions are not able to pay enough to justify the services of the most skilful surgeons in this field of work. Frequently, they must accept the surgeon who practices this art as a sideline. Under these conditions such a surgeon cannot be expected to spend the necessary time in this field nor can he give his best efforts to the work.

The person doing thoracic surgery is worthy of his hire and should receive a decent return for his services. The community should support the surgeon in the fashion befitting the dignity of his profession. If this is not done he is considered a poor citizen and doctor. Accordingly, he should not fail to ask for and receive a proper return for services rendered. In view of these facts, competent surgeons in almost all instances turn their attention to other and broader fields in order to earn that livelihood which will enable them to secure adequate pecuniary remuneration. This state of affairs is not conducive to the best interests of the tuberculous patient or to the most satisfactory control of the disease in the community.

Three Types of Surgical Clinics in This Specialty

To my mind there are three different types of American surgical clinics active in this specialty. Probably the most unsatisfactory one is the sanatorium that refers patients to various hospitals and surgeons that practice in the community. Seldom do the surgeons take any part in the discussion pro or con regarding the indications for operation, the type of surgery to be instituted, periods of rest and other methods of treatment. Often he is doing general surgery in his community and his training in tuberculous surgery has been limited to a week's observation in some large surgical tuberculous clinic. He operates, sends the patients back to the sanatorium, and many times his interest and knowledge of the patient ceases at this point. In fact, he seldom benefits by trial and error. Frequently, the sanatoriums are so far from the surgical center that it is impractical and even impossible for him to visit his patients during the convalescent period. Furthermore, he is unable to secure data regarding their progress and the final result of his treatment because of a shortage of physicians and of the statistical personnel within the institution. Conse-

quently, many patients become lost in obscurity when additional surgery might, if opportunely instituted, have enabled them to return to their homes.

The second type of surgical clinic that is now coming into favor is one that is built in the sanatorium itself; here surgeons in nearby clinics are called upon to do the surgery. The type of work done under these conditions depends upon the ability of the surgeons in question, the house staff, and the time that the surgeons can spend in conference, making rounds, operating, and in pathologic studies. The equipment and accessory staff, including the bronchioscopist, medical consultants and their availability, are equally important. Unfortunately, however, in many of these clinics the house staff is too small and relatively untrained and there is not enough money provided to pay the visiting surgeons or a trained house staff. The patients therefore suffer because of inadequate attention. In some instances full-time men are employed, but even here the salary generally is too small to induce well trained surgeons to stay in the clinic over an extended period.

To further complicate the picture, those working with this problem have a great deal of difficulty in admitting the few patients who are able or willing to pay for their hospitalization and care. General hospitals, both large and small, should make provision for the care of these patients in wards and in semi-private and private rooms. I feel this is particularly true because they certainly should not be treated in free sanatoriums and surgical clinics. This phase of the problem has been sorely neglected and I am confident that undue advantage has been taken of the free privileges provided.

Finally, we come to the smaller, more acceptable and widely scattered groups where well trained surgeons and chest clinicians work together. They will spend sufficient time on the patient before, during, and after operation. All are paid well and devote their entire or the required time to this work alone. In such a clinic the best surgery is done, and here accurate and dependable clinical data may be gathered. This is the type of clinic, to my mind, all states and municipalities will have to accept if the surgical control of pulmonary tuberculosis is to reach a satisfactory standard in all communities.

The Role of the Sanatorium

It is an established fact that the sanatorium is still the indispensable foundation upon which the surgical treatment of pulmonary tuberculosis is built. We must send the patients to the sanatorium before and after surgery is instituted. Collapse therapy in some form offers almost all tuberculous patients a reasonable chance of recovery. The fact remains, however, that surgery and the sanatorium cannot get along without each other. In many instances the sanatorium does well independently for patients with minimal lesions. A minimal lesion may be classified as one that is not extensive and whose cavities, if present, are small. However, nearly all of the patients entering our state and municipal sanatoriums are in the moderately advanced or greatly advanced stages of tuberculosis. Many of the latter types of cases frequently improve with bed rest alone and are allowed to leave the sanatorium; however, they return later with a reactivated lesion and too often a hopelessly incurable disease. With surgery instituted at the proper time the majority of patients may be discharged subsequently, not to return with a reactivation.

Surgery in Control of Pulmonary Tuberculosis

I have already said that the thoracic surgeon should not easily be led astray by false doctrine. There is still much discussion with regard to the value of surgery in the control of pulmonary tuberculosis. Nevertheless, I am inclined to disagree with those who take a pessimistic view of the value of surgery. The studies of Drolet[3,4] and Sampson[5] and their statistical data are rather conclusive. I am so thoroughly convinced that progress in this field is being made that if studies were to be started, with the benefit of more modern surgical technic and improved facilities, by 1945 we would have even more convincing data. Furthermore, if we now confine our statistical information to that gathered from the better organized clinics outlined in the third group above, we, without question, will feel more convinced regarding the value of surgery in this important field. Certainly the latter is more accurate than the conglomerate data secured from the combined unorganized and organized clinics throughout the nation.

Surgery improperly done or performed at an inopportune time is worse than if it had not been done at all. In visiting some rather poorly organized "hit and miss clinics," one cannot help being impressed with the delay between stages of thoracoplasty. They often extend over a period of months and even then are approached in an ultraconservative manner. The dangers of delay between stages and a half hearted approach is particularly well pointed out by Bartone[6] and has been frequently observed by us.

The work of Matson[7] et al. as early as 1924 proved beyond question that collapse therapy in the form of artificial pneumothorax was certainly an indispensable procedure in the hands of the

well trained. Sampson's[5] more recent studies bear this out. Leslie and Anderson[8] in 1935 reported a study of 1154 patients who were treated for an adult type of tuberculosis in the Michigan State Sanatorium beginning June 1, 1930, and attended through July 1, 1934. They showed that where collapse therapy, singly or in combinations, were instituted the results proved rather conclusively that surgery drastically reduces the mortality rate.

Potter[9] made a rather exhaustive and comprehensive study of newly admitted cases over a period of years extending from 1926 to 1937 inclusive. He showed that, as a result of modern methods of treatment in this disease the death rate in the Hudson County Tuberculosis Hospital, Jersey City, New Jersey, had been reduced from approximately thirty per cent to ten per cent. His conclusions were stated as follows:

> "We feel further that if the modern treatment of tuberculosis were practiced to the same extent and character throughout the country as it is in the scattered accepted clinics, this trend would exhibit itself more universally."

Freedlander and Walpow[10] analyzed the course of a group of one hundred and forty-three cases that needed thoracoplasty. They compared the results of thoracoplasty performed on eighty-five patients during the year 1932 to 1934, with the results of another group of fifty-eight patients who refused operation. Of the eighty-five who accepted operation, only twenty-one per cent became worse or died, whereas sixty-one per cent of the control group who refused operation suffered the same fate. This study made by them, to my mind at least, proves that surgery is extremely important in the indicated group and gives promise under better circumstances to contribute universally and greatly to the control of pulmonary tuberculosis in the community. The patient is assured against the spread of the disease to relatives, friends and associates. He is also protected against its spread to other parts of his own lungs and body tissues that otherwise may lead to his death.

* * *

Summary

1 It is possible to conclude that surgery of pulmonary tuberculosis is a difficult problem. Nevertheless, its control depends first upon adequate sanatorium care.

2 It is imperative that the surgeons in attendance be of the responsible type and cognizant of their responsibilities. They must be well trained and devote all or much of their time and energy to their task, working in closest collaboration with their associated chest clinicians.

3 They should have a well organized and associated house staff made up of young men interested in the field and who can share much of the work and responsibility.

4 The community should provide adequate pecuniary remuneration for the surgeons' services and in addition make provisions for surgical equipment and an auxiliary visiting staff.

5 The appointment of any member to the various staffs should be made on merit alone, politics playing no part in such appointments.

6 The doubt regarding the benefits resulting from surgery in the control of pulmonary diseases has been given impetus by the results accomplished in poorly organized tuberculous surgical clinics and by the work of inadequately trained thoracic surgeons. Such faults should be corrected to expel this justifiable doubt.

7 Definite progress is being made in this important field and ultimately it will become apparent that the well organized clinics must be staffed by full-time and well trained clinicians and surgeons. In addition they must have available the necessary equipment for clinical and statistical research.

8 General hospitals should make provisions for the care of tuberculous patients who are able to pay. Certainly, every effort should be made to prevent their admission and treatment in free clinics.

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Women's Auxiliaries and Junior Auxiliaries in Public Relations

WILLIAM B. SWEENEY

THE women's auxiliary program developed at our hospital, a 91 bed institution serving both a small industrial city and a rural area of 17 towns in northeastern Connecticut, has been very practical.

The Auxiliary is organized with two main divisions, a senior or woman's division and a junior auxiliary or high school girls' division. Both units are well organized, with efficient leadership, well defined objectives, full approval of the Board of Trustees and close contact with the hospital administration.

The Senior Auxiliary consists of a membership of approximately 500 residents and is divided into a main chapter and sub-chapters in the city proper and in each of the Community Towns. The main chapter has the usual panel of presiding officers with an executive board consisting of the officers and chairman from each of the sub-chapters located in the towns. Three vice-chairmen have definite duties: planning social activities, directing hospital auxiliary activity and supervising the Junior Auxiliary.

The main chapter meets semi-annually, while the units in the towns meet monthly. The city also has several sub-units functioning through various church and civic groups. General funds are provided partly from small annual dues and the proceeds of the two large social functions directed by the main chapter. Community town groups provide the nucleus for many social affairs, suppers and the like on a smaller scale.

Auxiliary Objectives Outlined

The objectives of the organization may be briefly outlined as follows:

1 To promote good will and community interest towards the support of our hospital.

2 To assist directly and indirectly in maintaining the linen and dressing supplies.

3 To provide annually funds for the purchase of some new equipment selected by the hospital.

4 To plan suitable programs on various occasions for patients and staff.

5 To promote interest in hospital activities and community service among girls of high school age in our area.

It is hardly necessary to dwell on the fact that the public relations program of any institution properly presented to any group of civic minded women will be productive of much good will and community interests.

The sub-auxiliary organized in each of the community towns under the leadership of its director maintains a schedule of monthly meetings. Their sewing and dressings groups are supplied with materials from the hospital and the main chapter. In order to coordinate this phase of work and plan for uniformity and hospital needs, a standard cutting and packing committee meets at the hospital every Tuesday. Material requested by the hospital is cut to standard pattern and a miscellaneous lot of items are packed in a standard box in order to maintain the interest of a varied group. This package contains sufficient material to keep a group of eighteen to twenty-four women busy for two hours. Supplementing this material, a carton of dressing material is added with samples and paper bags for packing the finished products. Electric sewing machines owned by the hospital, together with all the material, are delivered to the meeting place and scheduled for pick-up and return on the following

The Author

● **William B. Sweeney is Superintendent of The Windham Community Memorial Hospital, Willimantic, Connecticut.**

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day. The finished material is inventoried and credited to the respective groups in our annual report.

Promoting Some Specific Need

To assist in guidance of this important phase of work, a traveling scrap book has been prepared. In this loose leaf unit, advertising pages from hospital magazines and illustrated pages from equipment catalogues showing the cost and the order of need with a wide price range are grouped. This book is circulated among the sub-auxiliaries. Selections are noted for the benefit of others and considerable space is devoted in our annual report in recognition of such gifts. Only recently, a new portable x-ray machine, a modern electric magnotherm for therapy and a photo-electric colorimeter for our laboratory were made available through this phase of our public relations program.

For years the Auxiliary has provided splendid musical programs for the holidays and have also participated in our National Hospital Day observance. Floral decorations provided at Christmas and Easter add to the enjoyment of our patients.

Harvest Day in the fall is sponsored through our Auxiliary assisted by the Junior Auxiliary. Donations of surplus garden, orchard and home canning products are gathered through the school children. Junior Auxiliary girls in uniform, address the pupils in classroom, asking the youth to share the surplus of their home and farm gardens with the poor in our wards. The results of this program, aside from the opportunity of public contact, add many bushels of vegetables and quantities of preserves, jellies, and home canned goods to our kitchen stocks.

Junior Auxiliary

The most outstanding phase of our Auxiliary development, however, is our Junior Auxiliary organization. The membership is composed of high school girls of the three upper classes and has a membership of 160 members. This group elects its own officers, holds semi-monthly meetings at the school and renders service on a definite schedule at the hospital.

The hospital contacts are carefully supervised by a young woman of my administration staff and this work is coordinated with that of the Senior Auxiliary through the office of one of the vice-chairmen.

The girls are divided into teams of six to eight members with a captain. The captains are selected by my assistant from the older group who have demonstrated qualities of leadership. Each team reports in turn for either three successive afternoons or evenings for work periods of about two hours. The girls register in and out and are definitely assigned duties through their captain. In general, they conduct visitors to the various wards, assist the aged and infirm to the elevator, read to or write for the ward patients, re-arrange flowers, distribute magazines, assist in entertaining the children in their wards, help to make dressings and assist in Junior clerical activities. Upon reporting for duty they don a very distinctive uniform of yellow with white trim, with caps to match and insignia to note Junior Auxiliary.

The duties as outlined restrict the girls to certain sections of the hospital. Careful supervision is given at all times. Printed regulations are supplied each girl and these rules are studied at the monthly meetings. While on the floors, the head nurses control all contacts made to the patients. This hospital service is supplemented by an educational program carried on by the hospital staff in the school at the regular monthly meetings.

The girls in uniform also act as pages, ushers, and assist in general at any social affairs in the community where the proceeds are devoted to charity or general health work and in this manner keep a constant contact with the public.

Two social affairs for the entire junior group are given each year by the hospital and the Senior Auxiliary when suitable awards are given to individuals, also to teams for outstanding work at the hospital during the year. Many of these girls upon graduating have entered schools for nursing and at the present time, on the nursing staff as a general duty nurse, is a young woman, who in 1934 was the president of the Junior Auxiliary while a high school student.

Fireside Discussion of Hospital Service Through Auxiliary Activities

The opportunity to bring home to the fireside discussion, especially in our many alien groups, the everyday problems of a community institution, to have one of their own outline the facilities and the protection that modern hospitalization affords, is in my opinion one of the greatest opportunities afforded through our public relations program.

The youth of today are the supporters of our humane institutions of tomorrow. Our daily contacts should and must build well for the morrow. Voluntary hospital support should and must include all groups and ages. The growth and appreciation of your hospital facilities in great measure reflect the success of your public relations program.

Installing a Pay Cafeteria for Personnel

MARY M. HARRINGTON, B.S., M.A.

THE primary reasons for the installation of a pay service in a hospital should be satisfaction and economy in feeding of personnel. If the employees are to be given an "all cash" wage, it becomes necessary to provide an eating place for them during the working period. In the hospital provision must be made for serving meals twenty-four hours a day. This means that meals must be served four times a day and every day with provisions for late meals. As soon as food is being sold to the personnel, the relationship between employer and employee changes, and the consumer becomes a buyer with all the rights and privileges thereof. It must be expected that many of the employees will eat away from the hospital and personnel meals decrease from 16 to 25 per cent. No coercion should be used to require employees to eat at the institution. The hospital, in making this change, accepts the responsibility of business competition but has the added obligations of considering the employee's health and budget. The only means which can be used to encourage the personnel to patronize the "pay service" is that of serving food which will sell on the basis of its quality, price, and the environment in which it is served.

Policies of Operation

The policies of operation of this type of service in the hospital should be carefully studied, instituted, and supported by the administrative forces to promote successful operation. The dining rooms should be conducted in the manner of any commercial cafeteria without privileges to any special groups eating in the same dining room.

Three different types of food selection seem to be commonly used by hospital cafeterias and may be stated as follows:

1 Selection of a single menu at a stated price
2 Selection of parts of a menu at item prices
3 Selection from a wider variety of foods similar to that offered in industrial cafeterias and school lunchroom

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The Author

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Some institutions operate only one cafeteria for all hospital personnel, while others operate separate ones for the different hospital groups. The physical layout may determine the number of cafeterias considered necessary, but the chief consideration should be that of the low income personnel. Food habits, the budget of the employee and nutritional status of the individual should determine the variety of foods offered and the prices charged. It would seem desirable to promote the selection of foods essential for good nutrition, and these foods should be sold at a slightly lower price.

Hospital cafeterias are operated for the satisfaction and convenience of its personnel and guests, but are not in competition with public eating places. Since these dining rooms are not open to the public, guests at the hospital may be permitted to eat in the cafeteria upon presentation of an identification card.

Adequacy of the Physical Plant

The physical plant should be adequate to permit the preparation of many more foods at one time and have the necessary equipment for such preparation and space for sufficient display of foods on the counter. The investment of a large amount of money to provide such a plant for the sole purpose of introducing this type of service requires serious study and should be made only with consideration for the satisfaction of the personnel. An inadequate physical plant decreases efficiency of preparation and service with increased cost of overhead and work.

Food Allowance to Personnel

The allowance for food which is given to personnel upon the cost of an adequate diet consists of a reasonable variety of foods. This allowance

will vary with the price schedule which is decided upon by the particular cafeteria. After the price ranges of the menu had been accepted at Harper Hospital, an allowance of $22.50 per month was allowed to women employees and, since the energy requirement for men is about 5 per cent higher, their allowance was fixed at $24.00. A study of the cost of "A Moderate Cost Adequate Diet" according to Steinbeling's standards showed that such a diet could be selected with reasonable variety at prices ranging from 60 cents to $1.29 per day. The average check per meal has been calculated since this cafeteria plan has been installed. Studies of the checks of different groups are made periodically.

Plan of Food Cost Accounting

A food cost accounting system should furnish detailed data promptly enough to be used practically and should not cost more than the resultant savings. "Food cost accounting should be done in the clearest, simplest form possible to derive the information needed to operate the pay cafeteria as an independent unit" (Troutt). The hospital operates for the patient, and the cafeteria must be self-sustaining or it will increase the hospital operating costs with a resultant increased cost to the patients. Unless the proper distribution of costs is carefully controlled, this may influence, decidedly, the total hospital expense.

A well-organized plan of food pricing necessitates standardization of recipes and serving portions with careful modifications in price in accordance with market changes. Serving portions may be standardized on the basis of accepted restaurant portions. A high standard of food in portions of accepted quantity can be served if the raw food cost is maintained at 40 per cent of the sales dollar. This standard may vary with the type of cafeteria being operated, and in school lunchrooms, this cost may be as high as 60 per cent.

Food Control

Food control aims to maintain a consistency in the quality and size of portions of food at a minimum cost. It is concerned with the yield and utilization of all food purchased and should quickly reveal changes in the size of serving portions, use of leftovers and leaks. Food control is dependent, not only upon adequate supervision, but a checking system which records the distribution of all food. Various techniques may be used to secure this information according to the type of institution, but all serve to show the utilization of all food purchased. It also serves to prevent the consumption by personnel elsewhere than in specified dining rooms.

Menu Planning

The master menu is planned for the patient, and additional foods to offer sufficient variety for the selection of an adequate diet and to meet the food likes the clientele comprise the cafeteria menus. The menus for the low-income group differ slightly than those for the staff due to the difference in popularity of certain foods in the low-income group.

Transfer of Food From Cafeterias to Patients

The desire to take food from the cafeteria for patients may present many problems. The menus for ward and private patients are planned with a definite raw food cost per meal and portions are standardized accordingly. The size of portions of food served patients is naturally smaller than for active personnel. Substitution of the larger portions increases the cost of patient meals. The pay service is an independent unit. Its costs must be separately controlled and its expenses must balance with receipts to prevent an increase in the cost of hospital operation. Patients' likes and dislikes can be met by contact with the dietitian on patient service. This problem caused a prohibition of the purchase of food to be taken out of the dining rooms to patients.

Plate Combinations or Individual Items

No plate combinations are offered on the menu and such combinations are left to the choice of the consumer. Plate combinations are based on the inclusion of an expensive article and several inexpensive ones. The customer does not understand why substitutions can not be made and conflict ensues. Every article of food in this particular cafeteria must cover the production costs, and the consumer determines his own combination and meal expenditure.

Interval Meal Service

Provision must be made for late meals and between meal snacks. This can be provided by having reservations made for a menu selected from the counter or by obtaining late breakfasts and light lunches in the tearoom. With the installation of the "pay service," late meals for the personnel has ceased to be a problem.

Operating Cost

The pay cafeteria for personnel was instituted at Harper Hospital in April, 1938. There was a marked reduction in the amount of money spent for food, an improved service, and a greater personnel satisfaction. The payroll in the dietetics de-

partment has varied according to the increase in wages and labor turnover, as new employees start at a lower wage rate. Expenses of this department have increased, but this is due to a change in accounting which transferred many costs formerly listed under housekeeping and professional care of patients.

Distribution of the dollar spent by the dietetics department is as follows:

	1937	1938	1939	1940
	Per Cent	*Per Cent*	*Per Cent*	*Per Cent*
Food	72	59	53	54.8
Payroll	24	33	36	33.3
Other expenses	4	8	11	11.9
	100	100	100	100

Year Previous to "Pay" Type of Service

In the year 1937 the dietetics department expended 21 per cent of the hospital operating dollar without any contribution to the income dollar. In 1938, 22 per cent of the operating dollar was spent but 5 per cent was credited in the income dollar. In 1940, the expenditure was 19.7 per cent and the cash receipts were 6.7 per cent of the hospital income dollar. This must not be interpreted as profit, because the hospital operating dollar was increased by the addition of the food allowance to the payroll. The food cost report must show the distribution of the expenses in this department. The hospital accounting should show whether a decrease in food costs is offset by an increase in other expenditures.

The Small Hospital

The cafeteria type of pay service does not seem practical for the small institution as its successful operation is dependent upon the volume of meals served and requires adequate variety of foods on the counters, which increases the cost of production and service. When money is given the personnel instead of meals, a large number of these people eat away from the institution and there must be a source of replacement to pay the cost of operation. Since the hospital is concerned only with providing an eating place for the people within the institution, its only source of customers are guests of patients and physicians who are detained at the hospital. In a small hospital, this number is very limited and insufficient to replace the personnel who choose to eat elsewhere. A coffee shop is a possible alternative, which would provide continuous service as needed.

Health Aspects

The idea that impairment of health may result if the hospital does not provide three meals daily and sometimes additional nourishments, is a paternalistic attitude. A study of food eaten under the old system proved only too well that employees took some of all food offered, but ate only the foods they liked. Studies on waste confirm this fact. Food served does not mean food eaten and, even though an adequate diet was offered, many employees preferred to eat meat and desserts with the elimination of vegetables. The responsibility for good nutrition lies with the individual and can only be aided by education. During grade school and high school, the child begins to accept this responsibility in the selection of one meal a day at the school cafeteria. As soon as he enters industry or college, he accepts it in full. Interns and nurses are educated in nutrition and as guardians of the health of others are qualified to accept this consideration for their own welfare, and observations of the meals selected showed a consciousness of this. The variety in menus selected by the staff and personnel at any one meal is beyond the imagination and meal planning of any dietitian, and clearly illustrates why any planned menu receives so much criticism.

Temporary Hospitals for the District of Columbia

Temporary buildings may be erected to meet a shortage of hospital facilities in Washington, D. C., as the result of an Office of Production Management ruling that priority ratings would not be granted for materials for permanent hospital construction.

The O.P.M. advised the District Commissioners not to hope for favorable action on requests for priority status in the case of permanent hospital projects, but they would not be blocked from undertaking temporary expansion.

In a recent H.S.A. Survey, the hospital facilities at Washington were condemned as largely "a patchwork of past decades."

"Based on a general knowledge of the situation in various sections of the United States," it declared, "it may be asserted that in the Nation's Capital a greater proportion of the sick are being cared for in obsolete, hazardous, nonfireproof buildings than in any other large city in the country."

Britain Plans a National Hospital Service

CHARLES HILL, M.D.

A COMPREHENSIVE national hospital service for Britain will be created after the war. The National Exchequer will meet the cost. The work of surveying all existing hospital accommodation in preparation for the post-war national hospital service is to start now. This is the essence of a statement just made by the Minister of Health in Parliament.

The Author

● Dr. Charles Hill is Deputy Secretary of the British Medical Association.

Growth of Voluntary Hospitals in Britain

At present the country is served by two kinds of hospital, one charitable and the other state. The former is the voluntary hospital. Its history goes back to the arrival in this country of Christianity at the end of the sixth century. During the ten centuries which followed, Christian monasteries and priories played a big part in English life. Their work was both temporal and spiritual. They were the doctors, the schoolmasters, the protectors of the poor and the hospital governors. They were the schools, the havens of rest and the hospitals. They distributed alms at their gates and nurtured the sick in special annexes. It was these sick-bays, or annexes, which were the forerunners of the voluntary hospitals of today.

Then, in 1527, Henry VIII and his Reformation swept away the monasteries and their work. He suppressed them and seized their lands and their monies—in the name of religion. In a few short years he abolished the eight hundred hospitals that had grown up in ten centuries of English history. But their hospital work was needed, and soon the hospitals appeared under different auspices. Scientific charity began to do what religious charity had done. Guy's Hospital—one of London's biggest—was, for example, founded in 1724 by a Lombard Street bookseller who had made his fortune by the sale of "Bibles, Seamen's tickets and South Sea Bubble Stock."

St. Bartholomew's, or Bart's, had been first founded by Rahere, the court jester of Henry I who, in his old age, became both pious and philanthropic. In 1536 it was seized by Henry VIII. As a result sick and dying were to be found on many London doorsteps, and the Lord Mayor petitioned the King to reopen the hospital. Henry VIII became the second founder, and endowed the hospital with a portion of what he had stolen from the previous endowments! A religious hospital became a royal hospital.

The eighteenth and nineteenth centuries saw a great increase in the number of voluntary hospitals, both in London and in the provinces. At the beginning of the twentieth century the voluntary hospitals were most powerful and wealthy—they contained a hundred thousand beds and enjoyed an income of seventeen million pounds. They included general and special hospitals.

Poor Law Hospitals

True there was another hospital agency available to the poor. For seventy odd years there had been established a system of poor law hospitals available only to the destitute. Although their beds were more numerous than those of the voluntary hospital, their medical work consisted in the main of the care of the aged, the infirm and the destitute. The voluntary hospital cared for the acutely ill while the state hospital catered for the chronic.

Then, in 1929, the position was changed. The country's poor law hospitals were converted into public health hospitals, open to every member of the community. Their poor law associations removed, they were under new management, restaffed, re-equipped and, in many cases, re-built. Indeed there appeared on the hospital scene a new agency, ready and anxious to provide a skilled hospital service. The voluntary hospital was no longer alone in hospital provision.

War-Time Cooperation

From 1930 to 1939 voluntary and state hospitals worked side by side, usually in cooperation

but sometimes in competition. Schemes of cooperation were afoot. But the war demanded immediate cooperation and the breaking down of all legal and social barriers between hospitals, as between individuals. The Government's Emergency Medical Service, embodying all the larger hospitals, voluntary and municipal, was established, and is now working smoothly and efficiently.

The Government has lost no time in announcing that one post-war aim will be to secure a comprehensive hospital service. War-time cooperation is to be converted into a peace-time union. The Government will stand by the principle that patients should pay for their hospital service in proportion to their capacity to pay. But it promises at the same time that Government money will be available for the future development of all hospital services, whether state or voluntary.

Peace-Time Plans

Many of our larger hospitals situated in the towns have suffered greatly as a result of enemy action. Many have been damaged and some completely demolished. One urgent post-war problem will be hospital re-building. The Government promises its financial aid from national funds to help in post-war rebuilding. But the price of that financial help is to be the development of a comprehensive unified national hospital service preserving the best traditions of our ancient voluntary hospitals and their younger brother, the state hospital service. In this, if in no other direction, the war has quickened the pace of social and medical progress.

Hospital Employees Buying Savings Stamps and Bonds

Practically all hospitals have made arrangements for the sale of United States Defense Stamps and Bonds to their employees. This is a patriotic service in which everyone should participate to the limit of his resources.

The picture below shows the employees of the Methodist Hospital in Dallas, Texas, doing their part in the purchase of United States Defense Stamps and Bonds. In the background are photographs and posters portraying the economies which are exercised in this hospital, and which should be exercised in all hospitals.

Blue Cross Plan News

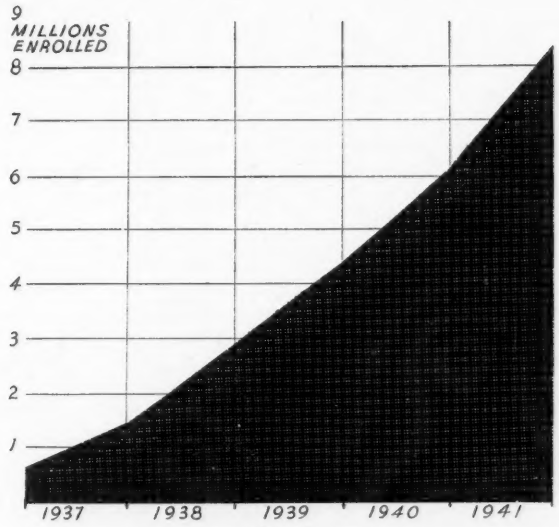
Blue Cross Health Army Enrolls One Million Persons in Ninety Days

Last-Quarter Gain Boosts Total Enrollment to 8,456,000 Persons Protected

No movement in American history has enlisted the popular support given to the Blue Cross Plans for hospital service. To realize the magnitude of an enrollment of 2,400,000 persons in one year, comparison has been made with gains in the armed forces of the Nation, and it has been found that the total induction in Army, Navy and Marines is less than the Blue Cross Plans' figure. Without compulsion, appealing purely on the basis of their nonprofit protection and gaining greatly from word-of-mouth publicity, which was prompted by the excellence of service rendered in the voluntary hospitals of America, the Plans have accelerated their rate of growth to its highest peak.

The first quarter of 1941 was a productive period during which sixty-seven plans reported gains of 350,000 persons. The second quarter more than doubled this figure with the addition of 600,000 Blue Cross subscribers. Going into the last half of the year, the pace quickened and July-August-September totaled approximately 500,000 persons, with the greatest enrollment—one million—being recorded in the last quarter of the year. The total enrollment as of January 1, 1942, in sixty-seven approved Blue Cross Plans was 8,465,000 subscribers.

Headquarters City	Total
Birmingham, Alabama	77,887
Los Angeles, California	43,866
Oakland, California	59,000
Sacramento, California	21,901
Winnipeg, Manitoba, Canada	56,834
Denver, Colorado	95,377
New Haven, Connecticut	265,332
Norwalk, Connecticut	23,155
Wilmington, Delaware	44,489
Washington, D. C.	145,000
Atlanta, Georgia	26,684
Savannah, Georgia	9,668
Alton, Illinois	31,486
Chicago, Illinois	332,773
Danville, Illinois	5,068
Decatur, Illinois	13,653
Peoria, Illinois	30,484
Rockford, Illinois	54,183
Des Moines, Iowa	42,456
Ashland, Kentucky	6,802
Louisville, Kentucky	33,494
Baton Rouge, Louisiana	5,610
New Orleans, Louisiana	2,728
New Orleans, Louisiana	65,560
Portland, Maine	36,608
Baltimore, Maryland	119,000
Boston, Massachusetts	348,977
Detroit, Michigan	817,699
St. Paul, Minnesota	447,256
Kansas City, Missouri	67,247
St. Louis, Missouri	222,900
Newark, New Jersey	340,179
Albany, New York	67,772
Buffalo, New York	197,394
Geneva, New York	3,163
Jamestown, New York	10,884
New York, New York	1,293,062
Rochester, New York	178,894
Syracuse, New York	115,097
Utica, New York	87,788



In a Short Five Years

On January 1, 1937, the Blue Cross Plans had slightly over a half-million subscribers. In that year of enrollment activity, they added to their lists not quite a million subscribers. And in 1938, the total was boosted through gains of 1,500,000 to a figure just short of three million as the mark for January 1, 1939. For the twelve months of 1939, respectable gains were shown, another million and a half persons were added. Beginning January, 1940, growth began to snowball with an acceleration beyond the expectations of some of the movement's most enthusiastic friends. In that year, almost two million additional subscribers were enrolled, and in 1941 the truly gigantic proportions of nonprofit hospitalization resulted in a gain of slightly less than two and a half million members. The graph above shows the rate of growth, beginning with the half-million on January 1, 1937, and climbing in a short five years to the total of eight and a half million persons protected by Plans.

Watertown, New York	5,664
Chapel Hill, North Carolina	166,201
Durham, North Carolina	66,228
Fargo, North Dakota	17,564
Akron, Ohio	70,708
Canton, Ohio	28,228
Cincinnati, Ohio	207,113
Cleveland, Ohio	576,586
Columbus, Ohio	33,908
Portsmouth, Ohio	7,070
Toledo, Ohio	121,589
Youngstown, Ohio	93,474
Tulsa, Oklahoma	18,730
Easton, Pennsylvania	35,331
Harrisburg, Pennsylvania	55,531
Philadelphia, Pennsylvania	347,142
Pittsburgh, Pennsylvania	446,468
Wilkes-Barre, Pennsylvania	30,457
Providence, Rhode Island	83,428
Kingsport, Tennessee	11,006
Lynchburg, Virginia	4,777
Newport News, Virginia	11,055
Norfolk, Virginia	24,748
Richmond, Virginia	54,954
Roanoke, Virginia	12,331
Huntington, West Virginia	16,027
Milwaukee, Wisconsin	62,251
Total	8,456,000

Incidence of Hospitalization

The proportion of persons hospitalized through Blue Cross Plans during the month of December increased only slightly over the previous month, which was the low point of the year. Nevertheless, approximately 62,000 subscribers were admitted to hospitals during December, and the total for the year reached 750,000 hospital patients who had the foresight to enroll in nonprofit hospital service plans.

A change in the incidence of hospitalization from one month to the next does not necessarily result in a corresponding change in hospital expense. A comparison of the monthly financial and admissions reports of all plans makes it appear that the average length of stay tends to increase during those months for which decreased incidence is experienced. Increases in the proportion of hospital expense to earned income during the months of March, July, August and October, when the incidence of hospitalization decreased, may be partially explained by the fact that a greater average length of stay would be reflected in increased average amounts of hospital expense per patient. However, other influencing factors such as unreported admissions and delayed payment of hospital bills would also contribute to this condition. Additional study and data would be necessary to determine the relative effect of the various influencing factors.

Future Growth

The speed with which Americans are embracing the nonprofit plans, makes every million mark a milestone which rejoices all Blue Cross Plan directors, but an even greater significance attaches to this huge volume of enrollment when the health values of the movement are realized. The enrollment of 8½ million persons means that in 1942 at least one million persons will be hospitalized without fear of hospital bills, and in the language of large numbers, one thousand gross of babies will be delivered in hospitals prepaid. The record of growth has been expanded year after year by the conscientious efforts of plan directors and personnel, and is due in no small measure to the cooperative service rendered by the nonprofit hospitals of our Nation. All who have hoped for a healthy America envision the day when four, five, ten times this number of subscribers will take refuge against illness and accident through Blue Cross Plans in the voluntary nonprofit hospitals of America.

Prepaid Babies—100,000 in 1941 Via Blue Cross

The United States Bureau of the Census predicted that 1941's birth rate would be about 18.8 per thousand population as compared to 17.9 for 1940.

People Prefer to Pay

There has been a shift by the general public from the use of local governmental hospitals to a greater use of nongovernmental hospitals for the care of acute illness during the past year. This fact is evidenced by summary data concerning 385 general and special hospitals in thirty urban areas, released by the Division of Statistical Research of the Children's Bureau, Washington. The thirty communities included ten cities with

over 500,000 population (exclusive of New York City), eleven cities in the range of 250,000 to 500,000 population, and nine cities with 250,000 or less.

For the month of August 1940, the total hospital days provided were 2,066,000 as contrasted with the increased total of 2,194,000 days in August 1941. For this period, the patient days in 60 public hospitals decreased from 702,000 to 685,000; whereas the patient days in 325 private hospitals increased from 1,364,000 to 1,509,000.

Factors underlying this shift are probably the increase in the number of employed persons throughout the United States in 1941 as compared to the previous year, also the increasing number of paying patients who are admitted as subscribers to Blue Cross Plans. The shift in utilization probably would be more pronounced if expressed in terms of patients rather than patient days. The tabulations released by the Children's Bureau did not indicate the number of admissions.

Contingency Reserves

A monograph on the subject of reserves of Blue Cross Plans has been prepared by Maurice J. Norby, research director, Hospital Service Plan Commission and has been distributed to all approved plans. It is felt that participating hospitals will be interested in a brief resume of the paper.

The contingencies for which reserves are required—fall into three categories: a) gradual increases in hospital utilization, resulting from a number of factors such as changes in medical practice and greater public appreciation of hospital care, which might require modifications of the subscriber contract, the rate structure, or both in order to offset long-run deficits in the operating account; b) sudden increases in hospital utilization, such as result from epidemic conditions or public disasters, the hospital expense for which is usually limited in amount by the number of available hospital beds in a community, and continues for a short period of time, often producing short-run deficits in the operating account; c) sudden increases in hospital expense due to a war economy, which might range from 1 to 25 per cent of present hospital expense and might last from one to five years.

Both hospitals and subscribers must be protected against financial loss resulting from these contingencies. The responsibility for the provision of hospital care to subscribers in Blue Cross Plans rests with the member hospitals and their "guarantee contracts," which safeguard the public interest in the same way as the investment, deposit, or assessment requirements of stock and mutual insurance carriers protect their policy holders. The public has built the American hospital system, and the hospital "guarantees" are essentially guarantees by the communities served by the Plans. Contingency reserves should be adequate to protect both the guarantors and recipient of hospital service.

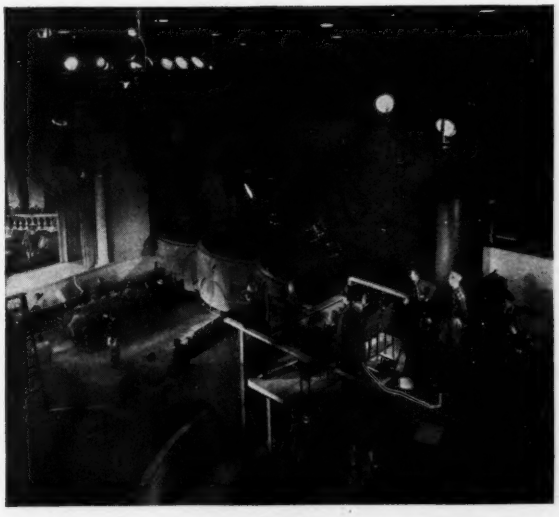
Adequacy of Reserve Funds

How large a contingency reserve is necessary to protect subscribers and hospitals adequately? The following rule is suggested: Contingency reserves should be equal to three months earned income or four months hospital expense (whichever is greater); to meet ordinary contingencies; and they should equal an additional two months earned income of two and two-thirds months hospital expense to meet war contingencies.

SUGGESTED SCHEDULE

	Months of Earned Income	*Months of Hospital Expense*
Ordinary Contingencies		
Modification of subscriber contracts	1.5	2.0
Epidemics and public disasters	1.0	1.3
Safety loading	0.5	0.7
Sub-total	3.0	4.0
War Contingency		
Increased hospital costs	2.0	2.7
Grand total	5.0	6.7

(*Hospitals may obtain copies of this paper by request through their local Blue Cross Plans. The full monograph is based on data furnished by the Plans and explains in detail the method of arriving at the above figures.*)



The above "still" gives an indication of size of production facilities of Wilding Picture Productions, Inc., selected as producer of the new Blue Cross Hospital Service Film. Funds for the production and for the many prints to be released through Plans and Hospitals for theater showing on National Hospital Day were made available through the generous grant recently made to the Commission by the Simmons Company.

President Proposes Hospitalization in Social Security Program

The President of the United States in his budget message to Congress on January 7, 1942, proposed the "addition of permanent and temporary disability payments and hospitalization payments beyond the present benefit programs" of social security. The significance of this movement for hospitals and Blue Cross Plans required that the intentions of the Social Security Board with respect to this matter be determined in advance of their formal bill to the United States Congress.

Dr. Bert W. Caldwell requested the Committee on Blue Cross Plan Relations, including several representatives of the Hospital Service Plan Commission, which had scheduled a meeting in New York City on January 12, to consider the problem facing the hospitals and Blue Cross Plans, and suggested that the Hospital Service Plan Commission take the initiative in determining the intent and implications of the President's proposal.

Members of the Hospital Service Plan Commission discussed the problems involved, and arranged for a conference with the Social Security Board on the morning of January 14 in Washington, D. C. Present were Dr. Basil C. MacLean, president of the American Hospital Association, Dr. Claude W. Munger, chairman of the Council on Government Relations, Dr. Robert H. Bishop, chairman of the Council on Public Education, Reginald F. Cahalane, chairman of the Public Education Committee of the Commission, and Reverend A. M. Schwitalla, president of the Catholic Hospital Association. The following representatives of the Commission attended: E. A. van Steenwyk, chairman, John R. Mannix, vice-chairman, C. Rufus Rorem, secretary, and Dr. S. S. Goldwater.

On behalf of the Social Security Board there were present A. J. Altmeyer, chairman; G. E. Bigge; and O. R. Powell, secretary (Ellen S. Woodward, the other member of the Board, was absent from the city).

In the meeting, which was an informal conference, members of the Social Security Board stated that it was their intention to recommend to the Congress that the social security provisions be extended to include a) disability allowances equal to the present unemployment allowances for periods of sickness, and b) additional allowances of $3.00 per day to the worker when either he or his dependents were hospitalized.

The hospitalization benefits would be in the form of an indemnity or payment to the employed worker upon the receipt of evidence that hospital care had been received. It was assumed that the worker might assign or authorize the payment of the cash directly to the hospital in which he or his dependents had received care. It was contemplated that participation in the hospitalization benefits would be universal and compulsory for those people who hold social security numbers.

In the conference, the representatives of the Hospital Service Plan Commission emphasized the following points:

> Voluntary programs are more acceptable to the American people and provide higher quality and more complete hospital service.
>
> The Blue Cross Plans are growing rapidly, and within a few years will demonstrate their ability to solve the problem of budgeting hospital bills.
>
> Blue Cross Plans contemplate low-cost plans for low-income groups, and ultimate coverage for rural groups and self-employed workers.
>
> Entrance of the Government into hospitalization benefits would lead to expansion of the governmental program and would tend to destroy the voluntary principle in hospital service and to lower quality because of political and impersonal control.

A subcommittee, consisting of Mr. E. A. van Steenwyk, Dr. Basil C. MacLean, Dr. S. S. Goldwater, Dr. R. H. Bishop, and Mr. John R. Mannix, was appointed by the chairman of the Commission. This special committee met in New York City on January 20. After discussion, the committee recommended that the Blue Cross Plans and the American Hospital Association study the Social Security Board's proposals for hospitalization payments, and that a joint meeting of the Hospital Service Plan Commission and the Board of Trustees of the American Hospital Association be held in Chicago on February 14 to draft a formal statement of policy and recommendations for action by the Blue Cross Plans and the American Hospital Association.

Plan executives and hospital administrators are invited to submit comments or suggestions to the Commission or to committee members as a guide to consideration of this important problem.

Personnel

James E. Stuart took over his new office as executive vice-president of Hospital Care Corporation, Cincinnati, Ohio, on January 1. At the time of his appointment to head the nonprofit plan which has an enrollment of over 200,000 persons, Mr. Stuart was executive secretary of the Hamilton County Child Welfare Board, and was in direct charge of the Hillcrest and Glenview schools. For some time he has been prominently identified with welfare and community activities in Cincinnati.

Eleventh Annual Mid-Year Conference of the American Hospital Association

THE Eleventh Annual Mid-Year Conference of the American Hospital Association, to be held at the Drake Hotel in Chicago on Friday and Saturday, February 13 and 14, will be one of the most important and significant conferences to be held by this organization.

Now that we are actually at war, there can be no question of our national objective: it is Victory! But victory and war today mean great effort and great sacrifice. Our Navy, our Marines, and our Army will take care of the military front; we need have no fear of that. But united action is required on the home front, with every person doing his or her job better than ever before, without hesitation and without fear, and with the skill and courage and faith that has made us a great and undefeated nation. Hospitals and hospital executives are devoting themselves to the task of keeping our "white battalions" abreast of the situation so that both military and civilian hospital service will be at the peak of their potentialities in this hour of national crisis.

Unusual Importance of Meeting This Year

Now, as never before, we must remain alert and united; we must keep closely in touch with one another through our Associations; and we must be ready and willing to furnish every possible service required of us for both the military and civilian populations. For this reason, in addition to the usual organizational purposes, all presidents, secretaries and other officials of the various regional hospital assemblies and sectional hospital associations should plan to attend the Mid-Year Conference in Chicago.

Among the important problems of immediate concern confronting hospital executives, are the rapid depletion of available interns, residents, and paid house officers caused by enlistment and induction into the armed forces, problems of purchasing and supplies in the light of priority restrictions, problems of civilian defense in relation to hospitals, the attitude of Congress toward the charitable aspects of voluntary hospitals as reflected in certain emergency tax measures, for example, the 1941 Revenue Act, and the President's recent recommendation as to the inclusion of hospital benefits in the Social Security program. These are only a few of the many problems that will doubtless be discussed by the members in attendance at the Conference.

Meetings

The Conference will begin Friday morning, at ten o'clock, in the Ballroom of the Drake Hotel, with Dr. Robin C. Buerki, dean of the Graduate School of Medicine of the University of Pennsylvania, Philadelphia, Pennsylvania, presiding. At this session it is planned to have the chairmen of the various Councils of the American Hospital Association, as well as the chairman of the Hospital Service Plan Commission, report and discuss activities, plans, and subjects of interest falling within their jurisdictions.

At 12:30 p. m., Friday, there will be a luncheon for the sectional and regional representatives, the chairmen of the state and regional legislative committees, and members of the Board of Trustees and Coordinating Committee, with Dr. Robin C. Buerki, presiding. At this meeting it is planned to have a brief talk by Dr. Bert W. Caldwell on matters of Federal legislation in relation to hospitals.

The meeting will reconvene at two o'clock in the afternoon with Oliver G. Pratt, superintendent of the Salem Hospital, Salem, Massachusetts, in charge. It is planned to throw the afternoon meeting open for general discussion of problems of present and vital interest—ranging from the role of hospitals in the war effort to association development problems.

On Friday evening, February 13, at six-thirty o'clock, the Board of Trustees of the American Hospital Association will give its annual dinner for the regional, state, and provincial hospital association executives and chairmen of the legislative committees, with President Basil C. MacLean in the chair. Immediately following the dinner, it is planned for those who may be interested, to play a "preview" of the new National Hospital Day record, which is now being prepared by the Association for distribution to hospitals and Blue Cross Plans for possible use in their public relations programs.

The Conference will continue Saturday morning, February 14, at ten o'clock, with Arden E. Hardgrove, superintendent of the Norton Memorial Infirmary, Louisville, Kentucky, presiding, at which time there will be a review of state and provincial legislation of interest to hospitals. This meeting will adjourn at noon. This, as well as previous meetings will be entirely informal. S.

Hawley Armstrong, executive secretary of the Hospital Association of Pennsylvania, will serve as Secretary of the Conference.

Other Concurrent Meetings

Groups meeting concurrently during the Mid-Year Conference will be the Council on Government Relations and the Council on Hospital Planning and Plant Operation, meeting on Wednesday, the Committee on Coordination of Activities, meeting on Thursday, and the Board of Trustees of the American Hospital Association, meeting on Saturday.

The Council on Medical Education and Hospitals of the American Medical Association will hold its usual Mid-Year meeting at the Palmer House the following Monday and Tuesday, February 16 and 17.

Reservations at the Drake Hotel, which will be the headquarters of the Conference, should be made at as early a date as possible in order to insure proper accommodations.

Schedule of Meetings of Hospital Associations in 1942

January 22—Wisconsin Hospital Association, Milwaukee

Coming Meetings

February 20-21—Arizona Hospital Association, Phoenix
February 22—North Dakota Hospital Association, Bismarck
February 26-27 — Texas Hospital Association, Houston

March 10—Massachusetts Hospital Association, Boston
March 20 — Louisiana Hospital Association, Shreveport
March 11-13—New England Hospital Assembly, Boston

April 8-11 — Tennessee Hospital Association, Memphis
April 9-11—Georgia Hospital Association, Memphis
April 9-11—Southeastern Hospital Conference, Memphis
April 13-16—Washington State Hospital Association, Seattle
April 13-16—Association of Western Hospitals, Seattle
April 13-16—Association of California Hospitals, Seattle
April 14—Alabama Hospital Association, Montgomery
April 15 — Oregon Association of Hospitals, Seattle
April 15-17—Hospital Association of Pennsylvania, Pittsburgh
April 16-18—Carolinas-Virginias Hospital Conference, Richmond, Virginia
April 16-18—South Carolina Hospital Association, Richmond, Virginia
April 21-23—Ohio Hospital Association, Columbus
April 23-24 — Mid-West Hospital Association, Kansas City, Missouri
April 23-24 — Kentucky Hospital Association, Louisville
April 27-29 — Iowa Hospital Association, Des Moines

May 6-8—Tri-State Hospital Assembly, Chicago
May 6-8—Indiana Hospital Association, Chicago
May 6-8—Michigan Hospital Association, Chicago
May 7—Illinois Hospital Association, Chicago
May 7-9—New Jersey Hospital Association, Atlantic City
May 11—Mississippi State Hospital Association, Jackson
May 13-14—South Dakota Hospital Association, Sioux Falls
May 20-22—Hospital Association of the State of New York, Buffalo
May 24-26 — Minnesota Hospital Association, Rochester

June 15-19—Catholic Hospital Association of the United States and Canada, Chicago

October 9-11—American Protestant Hospital Association, St. Louis
October 10-12—American College of Hospital Administrators, St. Louis
October 12-16—American Hospital Association, St. Louis

November 5-6—Maryland-District of Columbia Hospital Association
November 11 — Colorado Hospital Association, Denver
November 11-12—Kansas Hospital Association, Wichita
November 12-13—Oklahoma State Hospital Association, Enid

December 3 — Utah Hospital Association, Salt Lake City

Public Relations Program for a Hospital

HAROLD A. SMITH

BILLY SUNDAY, the noted Evangelist, often said: "My thoughts are all original but not always with me." Neither do I claim originality for all materials contained in this article but I write from nearly six years of experience as a director of public relations.

The increasing number of articles appearing in hospital magazines shows the recent emphasis on public relations for a hospital. Hospital administrators are awakening to the fact that only by emphasises on public relations can certain needs be effectively met in the hospital field.

A few years ago the term "public relations" was practically unknown and because the term is new we tend to confuse our thinking by considering it as something new and mysterious.

However, modern methods of good will flights, expeditions, and the sending of ambassadors to foreign countries are but the expansion and practical application of a public relations program.

We see school loyalty during a football game. Clerks must wear a smile and "the customer is always right" is the current slogan in our department stores. Corporations iron out their difficulties behind closed doors but meet their public with a smile. Even in our homes we put out the glad hand when company comes. These are but expressions of good public relations.

If the Hebrew people knew the secret of friendship by eating salt with their kinsmen; if Christ ate with publicans and sinners to win them to His cause, and if nations, corporations and individuals have discovered the secret of friendliness, how much more essential is it that hospitals be the most cheerful, the most sympathetic, the most "homey" place in the whole world. Dr. B. W. Black said recently: "The hospital is a hotel where our guests are always sick."

By way of introduction, then, we contend that every one whose name is on the payroll from administrator to scrub-boy must realize that it is his duty, his obligation to be a "disseminator of good will," a director of public relations for his hospital. We shall have more to say later in this discussion concerning the fact that one duty of the director of public relations is to instill into the very thought-life of all those associated with his hospital the inviolable principle of courtesy, friendliness, and loyalty. He should feel a "thrill" at the mention of the name of his hospital, grateful that he is a part of the grand work it is doing. If it paid a magazine company recently to give $65,000 for a name and an automobile manufacturer $100,000 for the naming of an automobile, then surely the very name of our hospital should mark it as of outstanding value in our community.

The Author

● Harold A. Smith is Director of Public Relations of the University of Iowa Hospitals, Iowa City, Iowa.

Definitions

We give here several definitions of public relations—

"Public Relations is the Attitude and Policy of Action of a corporation toward its public," or shall we say: "Public Relations is the Attitude and Policy of Action of a Hospital toward its clientele!"[1]

"Public Relations are designated to give a business a good reputation with the public, establish it in the public mind as an institution of character and an institution which functions in the public interest."[0]

"Public Relations is merely getting yourself understood and liked."[2]

"Public Relations is a way of life and cannot be bought like a typewriter but must express itself every hour in attitude and actions affecting workers, customers and the community."[2]

An old sage says: "Good Public Relations is applied common sense."

"Public Relations is the technique of developing human response for some definite purpose."[1]

Functions

"This problem involves three considerations:

1 The need of the community for hospital service;

2 The needs of hospitals in providing adequate community hospital service, and

3 The need of a relationship between hospitals and community whereby there is established a response sufficient to fulfill the requirements of both the community and the hospital.

"There is here a reciprocal relationship involving the needs of the community and the objectives of the hospital.

"If hospitals were in possession of every facility and service to maintain standards of excellency—then public relations would have little importance in the hospital field."[1]

* * *

"But costs are steadily rising; accrediting agencies are raising standards and requirements; adequate contributions are not forthcoming and a steadily rising percentage of our people have nothing in reserve for illness and therefore become a charge upon the hospital and community."[7]

* * *

"Because of these conditions, hospital executives must recognize the necessity of an adequate and comprehensive program of public relations to bring before the public the history, the functions, the services and the accomplishments of the voluntary hospitals and this must be done in such a clear-cut way that the public will whole-heartedly support and respond to the fundamental principles underlying the voluntary hospital."[1]

* * *

Public relations is indispensable to the preservation and development of a hospital. It is the Number One problem facing us in the hospital field today.

The functions of a public relations program is misunderstood when we think of it only in terms of press copy, radio script, annual reports and posters. These all have their place but a public relations program must be geared to a program of institutional development—a ten year outlook—with a "thorough analysis of the hospital needs; the justification for appeal; the money or objectives sought; the sources of possible response; and last but not least, the type, extent and cost of the public relations program itself."

We mentioned a long-range program of ten years. Sporadic publicity with no continuity, direction or permanence contributes nothing of value to a hospital.

We repeat one definition: "Public relations is the technique of developing human response for some definite purpose."

We emphasize "human" response for our appeal must be individualized as much as possible as well as have a definite purpose.

We all agree that: 1) Every community needs hospital service; 2) There are certain needs—such as equipment, constantly arising in the hospital to give adequate community service so we shall dwell upon the third premise wherein primarily lies the real field of public relations; 3) The need of a relationship between hospitals and community whereby there is established a reciprocal response sufficient to fulfill the requirements of both the community and the hospitals.

This reciprocal relationship between hospital and community is most important in any public relations program.

"The problem of human response is primarily psychological.[1]

a) First there must be adequate understanding, which will lead to

b) Acceptance, and must be followed by

c) Favorable action in order that it may become a successful public relations program.

"Understanding, acceptance and action constitute the heart, the germ of public relations. It is true we may have any one of the three; understanding, acceptance or action by a community without the other two. Our problem is to correlate these so as to secure all three at the same time.

"Knowledge without zeal lies dormant but zeal without knowledge is always dangerous. In Rom. 10:2, we read, 'They have zeal toward God but not according to knowledge.' This then is the source of religious fanatics and 'isms'.

"We must first understand clearly our own objectives then present these to our clientele in understandable terms for their acceptance after which we may expect favorable action."[1]

Methods

A public relations program for a hospital divides itself into four definite groups: Employees; Potential Contributors; Patients; The General Public.[2]

The Employees—We stated earlier in this discussion that every employee must be a booster for your hospital—in order that he will do this, he must be satisfied with his work and treatment. "He must realize he is receiving the same rates of pay as those in comparable hospitals. That possibly he has protection as provided by the Hospital plan. That he has social privileges."

For example—Have you as superintendents ever realized how important your telephone opera-

tors are? Successful business organizations have long realized this importance. Here is a contact before the patient has even entered your hospital. Here is your advance guard. Operators are dealing with anxious and disturbed persons and right here the ministry of the hospital should start. The hostess in a dining hall must have a pleasing personality to make folks feel at ease and to diplomatically settle misunderstandings. This cordial touch should be carried on and enhanced at the admission of the patient to the hospital and the family should be included in its application.

Our good friend, Bill Koenig, was in the hardware business. Whenever a family came in to buy a stove, Bill paid more attention to the children than he did to the parents. This would be the last stove the parents would buy, but in fifteen years these children would need a stove. This is a sound public relations principle.

Remember, friends and relatives are potential patients and disseminators of good will for you or they may easily become knockers instead of boosters.

Need we enumerate all—not only telephone operator, but admitting officer, orderlies, nurse aids, interns, nurses, supervisors, doctors, but each and every employee must radiate the "esprit de corps" of your organization.

Potential Contributors—A definite mailing list should be maintained at all times. This should be kept active and up-to-date.

Annual reports are mailed out.

Contributions are listed in these printed reports.

Booklets describing special facilities, listing rates, rules, unusual features are all interesting reading material to those on our mailing list. Not only should a personally signed letter from the Administrator accompany this mailing but personal contacts are in order."

The president of a university had just received a gift of $250,000 for a music hall. This had been preceded by $350,000 gift for a field house. Riding in our car a few days later we made inquiry of this president as to his method of asking for donations to his institution. He replied: "We never ask for contributions but we see to it that potential contributors are kept informed of our needs at all times." This "information" brought this institution one million dollars from this one contributor.

The Patient—Here is need for the personal touch.

Everyone engaged in hospital work is busy and busy effectively, because the work is highly organized and runs on schedule. It is imperative that it be so but it tends to make every activity a routine business.

What is forgotten, or what the worker has little time to recall, is, that what is routine to them is a major experience in the life of the patient and the family.

To avoid chaos in the hospital, activities must be routine but they should not be permitted to become so mechanical that the personal touch is eliminated.

The patient should be made to feel that his case is the major concern of all and when this can be accomplished without disturbing the organization, much will have been done in the realm of a good public relations program and toward making hospitalization a less terrorizing experience.

A few suggestions briefly stated:

When the patient enters the hospital, a booklet should be given to him stating rates, rules, regulations. This eliminates many misunderstandings later.

Provision can be made for delivery of papers and magazines, for barbers, beauticians, radios, purchase of necessary articles, etc.

He should be encouraged to voice his complaints and be given a form on which he can register complaints to his heart's content."

In our work as field representative for the University Hospitals, we have gone out of our way to contact the doctor who was antagonistic, to get him to talk, to register his complaints.

Our former surgeon, the late Doctor Beye said: "Smith, we want the Bricks, not the Bouquets."

Doctor Steindler, our orthopedist says: "If a man criticizes my work, he's been thinking."

Mr. Neff, administrator, says: "Make a full report of every criticism no matter how immaterial it may seem and that person will get a reply from this office."

Doctor MacEwen, dean of the College of Medicine is more concerned during our interview each Saturday with a complete report from those doctors in the State who feel they have a grievance than with those who are for us 100 per cent.

To register a complaint, gives the patient an opportunity of "going on record" instead of carrying his grievances home to relatives and friends. When complaints on one item persist, the condition should be corrected.

A supervisor in our hospital refused to turn a patient over for her comfort. A nurse aid did this a half hour later. This supervisor is not now on our pay-roll.

Do you as administrators send a note to a patient a week after he has gone home asking about his condition and again giving him an opportunity for any constructive or adverse criticism as to his stay in your hospital?

The General Public—"The pressure of public opinion is like the pressure of the atmosphere. You can't see it, but all the same it is sixteen pounds to the square inch."[5]

Public opinion forced Pilate's decree. It brought about the Boston Tea Party. We must know what the public is thinking and not base our recommendations upon what the public ought to be thinking.

Here are ten typical areas where unfavorable public opinion may breed:

1 A brusque phone operator
2 A superior attitude by personnel
3 A curt form letter
4 An executive who is unpopular in his social life
5 Lack of personal neatness in the staff
6 Gloomy physical surroundings in an office
7 Referring customers from one department to another
8 Inaccessible officers
9 Disinterest in community enterprises
10 Failure to reply to complaint

Public relations is not something written to be read, but something that is done and built into the fabric of social life.

The hospital must be known in order that it may serve its community. We may be accused of "advertising" the hospital or of "lowering the dignity of the uniform" or that we should read up on "professional ethics," yet we contend that the community, our public, has the right to know by all legitimate means, such as news stories, radio talks, talks to service clubs, inviting service clubs, medical societies and other organizations for a luncheon, what an asset the hospital is to that community and should be told some of the accomplishments of said hospital.

"Milk from contented cows" is widely publicized. We contend that the "milk of human kindness" must flow from contented minds and loving hearts by our hospital staff and thereby win good will, confidence and cooperation.

Qualifications of Director of Public Relations

The hospital administrator may be the logical person in your hospital to direct your public relations program. Whether this be true or not, there should be a one-point contact in your hospital for all publicity. Whoever is designated should be someone who has a conception of what makes news, must have a sympathetic understanding of people and must be familiar with all departments of the hospital.

Because of the varied problems involved in an adequate public relations program, the qualities requisite in a man competent to write, prepare and direct matters having to do with public relations are manifold. Among them are—

1 Knowledge of psychological principles, involving a keen insight into human nature
2 Knowledge of business procedure
3 Tact
4 Experience gathered from applying psychological principles to the work of Public Relations
5 Ability to select the best data for printing and publicity
6 Resourcefulness and ingenuity in developing ideas and getting the most extensive and varied utilization of them by all media

These qualifications can be cultivated and we have not quoted from Dale Carnegie's book either. We do recommend reading it, however.

Conclusion

The parable of the house built on the sands may be applied to public relations. No public relations program can withstand the waves of public opinion unless it is built on a firm foundation of reciprocal relationship between Hospital and Community.

In conclusion, the basic law of public relations was laid down by the Apostle, Matthew, when he said: "Therefore all things whatsoever ye would that men should do to you, do ye even so to them." St. Matthew's golden rule is still the sound basis, the corner stone of a public relations program for your Hospital.

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2 *HOSPITALS:* "Presenting the Case of Voluntary Hospitals to the People," D. S. Mix, March 1941.
3 "Public Relations—Public Policy and Commercial Publicity," by John Price Jones.
4 "At the Bar of Public Opinion," by John Price Jones.
5 James Russell Lowell.
6 Arthur F. Page.
7 G. Harvey Agnew, M.D.

Here's A Floating Soap Made Specially To Meet Hospital Standards!

NEXT time you order soap—particularly floating soap—bear this in mind: *hospital requirements were given first consideration in the development of Colgate's Floating Soap!*

It is skillfully blended to produce a mild, white soap that is notable for the rich abundance of its gentle, fast-cleansing lather. Nurses who use it regularly for patient care regard Colgate's Floating Soap as exceptionally kind to the skin . . . patients find it both pleasant and refreshing!

In its cost, you'll find further evidence of regard for hospital needs—in spite of its high quality, Colgate's Floating Soap will fit in your budget. Let us give you prices on the sizes and quantities you need, and send you a free copy of the helpful Colgate-Palmolive-Peet "Soap Buying Guide." Just ask your local Colgate-Palmolive-Peet representative or write to us direct. No obligation in either case!

For use in private pavilions, and particularly for women patients, we recommend Cashmere Bouquet. A fine, white, hard-milled soap, it is famous for its rich, creamy lather . . . its delicate, lingering perfume! Available in miniature sizes.

Palmolive is becoming increasingly popular among hospitals, both for staff use and for patient care. Made with rich Olive and Palm Oils, it meets the highest hospital standards in purity. Palmolive, too, is available in miniature sizes.

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Items of Interest to Administrators

New Cancer Machine at Memorial Hospital, Houston

Mrs. J. W. Neal, prominent Houston philanthropist and a member of the Board of Trustees of the Memorial Hospital, Houston, Texas, has presented the x-ray department of the hospital with a new 440 K.V. Constant Potential Deep Therapy Machine for the treatment of cancer to complement a 200 K.V. Deep Therapy Unit presented a short time ago by Mrs. Neal and her daughter-in-law, Mrs. J. Robert Neal.

In January 1940 Mrs. Neal and her husband, now deceased, set up a trust fund of $100,000, the interest from which goes to Memorial Hospital for the purpose of giving treatment to cancer cases that are without funds to pay for such treatments. The trust is in memory of their son. A few years before a similar trust fund was set up by Mr. and Mrs. Neal, the interest of which goes to the hospital for the care of sick and disabled children.

Refresher Course for Dietitians at Teachers College, Columbia University

Mary de Garmo Bryan, Teachers College, Columbia University, advises that a refresher course for dietitians will be given cooperatively by the Presbyterian Hospital, Montefiore Hospital, and the United States Marine Hospital from July 6 to August 15, 1942, offering observation and experience in the management of hospital food service.

The course is open to dietitians whose training and experience is satisfactory to the instructors. The number to be enrolled is limited, and applications should be made before May 1.

In this time of emergency and shortage of dietitians, it is particularly desirable to make it possible for women who may wish to re-enter the dietetic profession to do so.

Postgraduate Nursing Course in Theory and Practice of Obstetrics

St. Joseph's Hospital School of Nursing, Joliet, Illinois, in complying with many requests for postgraduate courses in Catholic hospitals, has instituted a Four Months Postgraduate Course in Theory and Practice of Obstetrics, designed to prepare the nurse for positions in supervision and teaching in the obstetrical department. The Department of Registration and Education of the State of Illinois has issued approval of this course.

This course is open to both Sisters and lay students.

In addition to didactic training, students will receive obstetrical field experience with the local visiting nurses association.

To Our Soldiers

During the first World War, Wilfrid Wilson Gibson wrote a series of stanzas about various types of soldiers at the front and the introduction was dedicated to his unborn son:

TO MICHAEL

If the promise of your coming's true
And you should live thru years of peace;
Oh son of mine, forget not these,
The sons of man who died for you.

* * *

The following selection is from the late A. E. Housman:

They braced their belts about them;
They crossed, in ships, the sea.
They sought and found, six feet of ground,
And there they died for me.

Hypodermic Needles

Hypodermic needles are now made almost entirely of rustless or stainless steel. Carbon steel needles formerly used have practically disappeared because of the difficulty with rusting and breaking. These newer needles require little care, other than careful cleaning, to remove any residue of blood or solutions. They hold their points well and will give satisfactory service for a long time with a minimum of care. Gauges of needles in ordinary use run from 27 to 13 gauge—the smaller the gauge number, the larger the size. Needles are available in many lengths ranging from 3/8" for intradermal work to 3½" for use in spinal puncture.

In the smaller sizes, the difference between two contiguous sizes—23 and 24, for instance— is so

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MAGNIFICENT NEW WESLEY MEMORIAL HOSPITAL...CHICAGO LAUNDRY EQUIPMENT WAS FURNISHED BY

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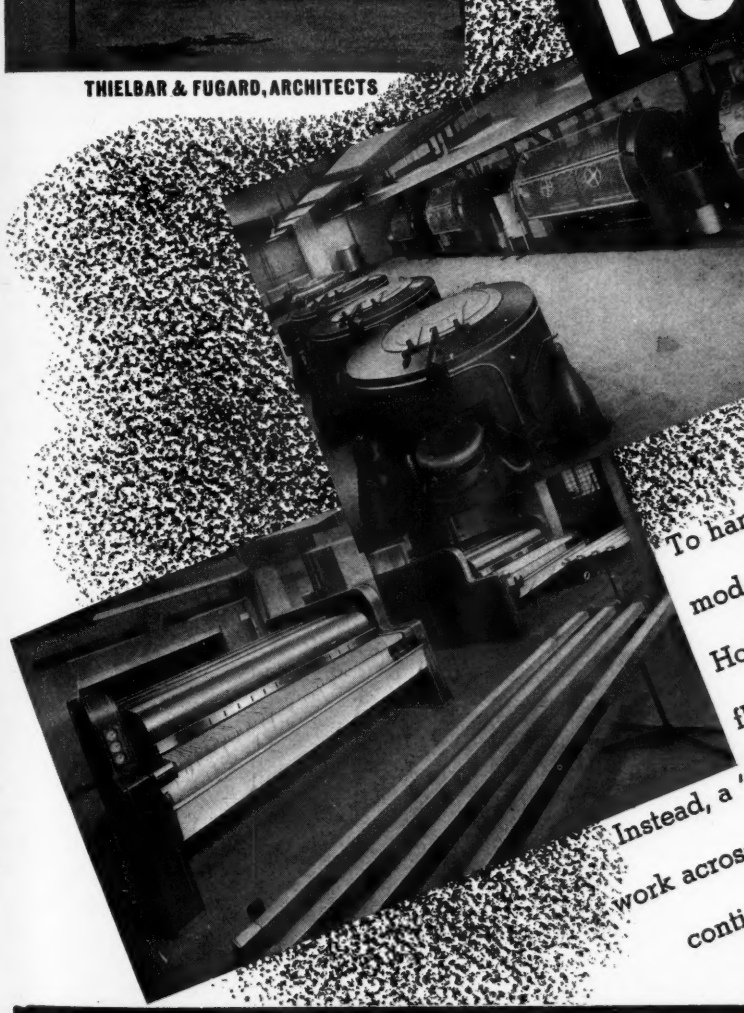

Hoffman "Shell-less" washers save time—save washroom space—save wear and tear on the linens!

To handle the flatwork in this ultra-modern hospital laundry Hoffman installed new "straight-line" flatwork ironers. NO ROLLS! Instead, a "caterpillar" type apron moves the work across a flat-topped steam chest. Dries continuously instead of intermittently.

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small that it cannot be detected except by close comparison with a needle of the other size. For this reason, hospitals commonly order only alternate sizes—odd or even numbers, as the case may be.

Needles are given a cutting point by grinding the end at an angle of approximately 12° with the bore of the needle. Bevels are ground either concave or practically straight. Some feel that the concave point is easier of introduction, but it is very difficult to resharpen, while the straight point can be easily sharpened on an oilstone so long as the shank of the needle retains its usefulness.

Attachment

The old screw-on method of attachment of the needle to the syringe has been almost entirely replaced by the Luer tapered, slip-on type. In this type, both the tip of the syringe and the hub of the needle are ground to a taper of approximately 1½°, and when the hub is seated on the tip of the syringe, the joint is tight enough for all practical purposes.

In the larger sizes, syringes can be secured having the tip either centrally placed or laterally placed as related to the end of the barrel. The advantage of the laterally placed tip is that the needle may be introduced parallel with the vein. This is very desirable in intravenous work.

Syringes

The best grade of modern syringe is made from a heat resistant glass and carefully annealed. As the glass is formed, the molten glass cools more rapidly at the surface than in the depth of the glass and this develops what are technically known as "strains." Annealing consists in heating the glass to near its melting point and cooling very slowly, thus permitting all parts of the glass to cool at the same rate. This removes the "strains" and the glass is then much less likely to break when exposed to sudden changes of temperature or even to a blow. This difference is so great that one hospital found that well annealed syringes in actual service lasted seven times as long as those not properly annealed.

After forming and annealing, the barrel and the hollow plunger are first ground separately to an approximate fit and then in the better grades, each plunger is carefully ground into its own barrel. For this reason, each plunger can be used only with its own barrel and the breaking of one calls for the rejection of the other.

The fitting of the two parts and the ultimate life of the syringe depend on the skill of the workman. A simple test of tightness is to withdraw the plunger until the barrel is about half filled with air, close the tip with the finger and compress the contained air by pushing down the plunger. If the fit is good, the plunger will recoil to its original position when the pressure on it is released.

Marking is made by actual measurement of two or three critical points on the barrel and then by subdividing the distance between those points, the graduations are etched into the barrel and then the etched grooves are filled with a special pigment which is fused to the syringe and which is resistant to the solutions and heat normally used.

The better grades are made with a stop in the lower end of the barrel, which prevents the plunger coming in sufficient contact with the lower end to break it out.

Syringes are made in sizes from 0.25 cc. to 100 cc. In the selection of a syringe for a particular injection, the smallest size which can be used should be employed, as the smaller the diameter the more accurate the graduations.

Henrotin Hospital's School of Nursing Celebrated Fiftieth Anniversary

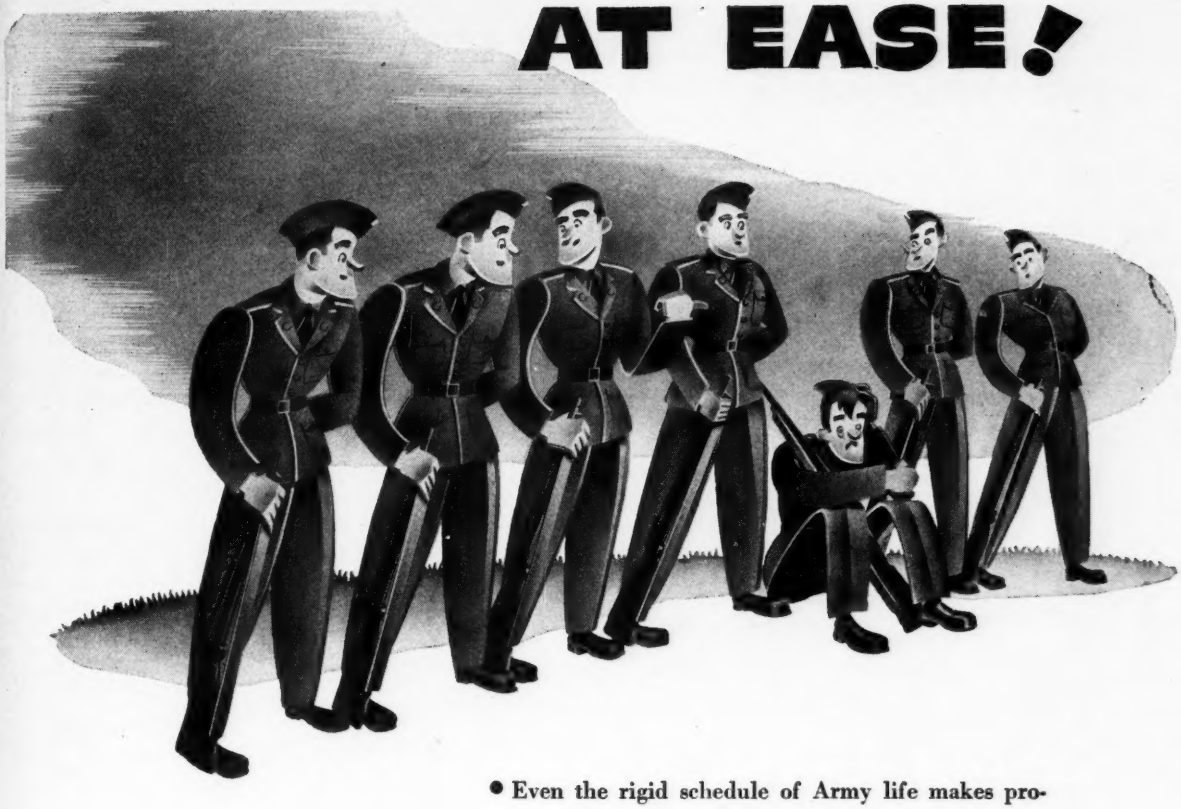
Henrotin Hospital, Chicago, has celebrated its fiftieth anniversary of the founding of the school of nursing. The school was established in 1891 as the Chicago Policlinic School for Nurses, graduating its first class of two nurses in 1893. When the name of the hospital was changed to Henrotin, in honor of Dr. Fernand Henrotin, one of the founders of the Chicago Policlinic, the name of the school was likewise changed.

Veronica Miller, who has been superintendent of the hospital since 1921, is a Henrotin graduate, class of 1914. Katherine L. Knott, director of the school and of the hospital's nursing service, is also a Henrotin graduate.

Mount Sinai Hospital Dedicates Its New Pediatric Department

The new pediatric department of Mount Sinai Hospital, Chicago, was dedicated on January 15 by the Henry Davis 400 Organization. The Henry Davis 400 Organization, organized in 1927 by Emanuel H. Davis in memory of his father, Henry Davis, has as its objective the equipping and maintaining Mt. Sinai Hospital with all the facilities necessary to provide child care in keeping with the advancement of medicine.

AT EASE!



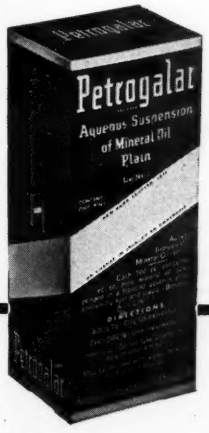
• Even the rigid schedule of Army life makes provision for regular, enforced periods of relaxation.

Not so in the stepped-up-tempo of civilian life. There's usually no one but the doctor to call a halt to his patient's hectic routine. When treatment for constipation is indicated, remember Petrogalar's advantages.

It provides a bland, unabsorbable fluid to augment the moisture in the stool and helps establish a regular, comfortable bowel movement.

Petrogalar* helps soften hard, dry feces and aids in bringing about a well-formed, yielding mass that usually responds to normal peristaltic impulses.

Consider Petrogalar in the treatment of constipation.



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**Trade Mark. Petrogalar is an aqueous suspension of pure mineral oil each 100 cc. of which contains 65 cc. pure mineral oil suspended in an aqueous jelly containing agar and acacia.*

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Lake Shore Hospital.....Lake City

Georgia

Hospital Service Association.....Savannah
State Tuberculosis Sanatorium.....Alto

Illinois

Associated Hospitals of Danville.....Danville
Northern Illinois Hospital Service, Inc...Rockford
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Indiana

St. Joseph Memorial Hospital.....Kokomo
"Silvercrest" Southern Indiana Tuberculosis Hospital .....New Albany

Iowa

Clarinda State Hospital.....Clarinda
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Hospital Service, Inc., of Iowa.....Des Moines
St. Francis Hospital.....Grinnell
St. Joseph's Hospital.....Keokuk
St. Vincent's Hospital.....Sioux City

Kansas

Caldwell General Hospital.....Caldwell
Feldhut Memorial Hospital.....Stafford
St. John's Hospital.....Iola
Southeast Kansas Hospital.....Coffeyville

Louisiana

Flint-Goodridge Hospital Service Plan .....New Orleans
Hospital Service Association.....Baton Rouge

Maine

Associated Hospital Service of Maine...Portland
Miles Memorial Hospital.....Damariscotta

Maryland

Baltimore Eye, Ear and Throat Charity Hospital .....Baltimore
Cambridge-Maryland Hospital.....Cambridge
Happy Hills Convalescent Home for Children .....Baltimore
St. Agnes Hospital.....Baltimore

Massachusetts

Joseph H. Pratt Diagnostic Hospital.....Boston

Michigan

Emma L. Bixby Hospital.....Adrian
Carney-Wilcox-Miller Hospital.....Alma
Crystal Falls Municipal Hospital....Crystal Falls
DeNike Sanitarium.....Detroit
Martin Place Hospital.....Detroit
Oakland County Tuberculosis Sanatorium.Pontiac
United Memorial Hospital.....Greenville

Minnesota

Bethel Hospital.....Mountain Lake
Granite Falls Hospital.....Granite Falls
Northern Itasca Hospital.....Bigfork
Rice Memorial Hospital.....Willmar

Missouri

Ellis Fischel State Cancer Hospital....Columbia
Group Hospital Service, Inc.....Kansas City
Kansas City General Hospital.....Kansas City
McCune-Brooks Hospital.....Carthage

Nebraska

Lutheran Hospital .....Norfolk

New Jersey

Aurora Institute, Inc.....Morristown
Hospital Service Plan of New Jersey....Newark

New Mexico

St. Anthony's Hospital.....Las Vegas
St. Joseph Hospital.....Clayton

New York

Blythedale Home.....Valhalla
Community Hospital in the City of New York.....New York
Finger Lakes Hospital Association, Inc....Geneva
Hackett Sanitarium and Nursing Home..Kingston
Highland Hospital.....Beacon
Oswego County Sanatorium.....Richland

North Carolina

Barnes and Griffin Clinic.....Asheboro

North Dakota

North Dakota Hospital Service Association.Fargo

Oklahoma

Group Hospital Service.....Tulsa

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Hood River Hospital.....Hood River
Hutchinson General Hospital.....Oregon City
Josephine County General Hospital..Grants Pass
Lebanon General Hospital.....Lebanon
McAuley Hospital.....Marshfield
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Waldport Community Hospital.....Waldport
Willamette Hospital.....Newberg

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Allentown Hospital .....Allentown

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★ And now — we are once again engaged in research and the development of more efficient x-ray apparatus for civilian use. Should present world conditions continue, there will be a delay in securing some of the raw and intermediate products that must meet the exacting requirements of Picker specifications.

★ We may need additional time to make delivery of *your* x-ray equipment. It will, however, be installed — not perhaps on the very day you may expect it — but it will be exactly *as* you expect it . . . with the same high standard of workmanship and materials that have gone into every Picker-Waite X-Ray Unit for the past 45 years.

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St. Joseph's Hospital.....Wellington
Western Clinic Hospital.....Midland

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Copley Hospital.....Morrisville

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Front Royal Hospital.....Front Royal
Hospital Service Association of Roanoke.Roanoke
Kings Mountain Memorial Hospital.....Bristol
Piedmont Hospital Service Association.Lynchburg
Radford Community Hospital.....Radford
Raiford Hospital.....Franklin
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Maynard Hospital.....Seattle
St. John's Hospital.....Port Townsend
St. Mary's Hospital.....Walla Walla
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Huntington Hospital Service, Inc.....Huntington
Wetzel County Hospital.....New Martinsville

Wisconsin

Plymouth Hospital .....Plymouth

Puerto Rico

Clínica Dr. M. Juliá.....Hato Rey

Canada

Manitoba Hospital Service Association ..... Winnipeg, Man.

Texas Hospital Association Convention

The thirteenth Annual Convention of the Texas Hospital Association will be at the Rice Hotel, Houston, Texas, on Thursday and Friday, February 26 and 27. The program is one that will command the attention of hospital administrators seeking further information and guidance on the many problems which have arisen out of the war.

Basil C. MacLean, M.D., president of the American Hospital Association, will address the Convention at the Friday evening banquet on "Hospital Adjustment to War."

C. Rufus Rorem, Ph.D., C.P.A., director of the Hospital Service Plan Commission of the American Hospital Association, will speak at the Thursday morning session on "Blue Cross Plans—a Community Venture in National Defense." W. R. McBee, director of the Group Hospital Service Plan of Texas, will speak on the Texas Plan during this same session, and a round table on these subjects will follow.

F. M. Law, president of the First National Bank of Houston and a trustee of Memorial Hospital of that city, will address the President's Night Session on Thursday evening on "The World After the War." Mr. Law is president of the Board of Directors of A. and M. College and a past president of both the American Bankers Association and the Texas Bankers Association.

Lucius R. Wilson, M.D., administrator of the Protestant Episcopal Hospital of Philadelphia and president of the American College of Hospital Administrators, will speak at the Friday morning session on "The American College of Hospital Administrators, Past and Future."

Bert W. Caldwell, M.D., executive secretary of the American Hospital Association, and Dean Conley, executive secretary of the American College of Hospital Administrators, will speak at the Friday luncheon meeting.

W. B. Russ, M.D., San Antonio, Texas, medical officer of Region Eight of the National Office of Civilian Defense, will speak on Friday afternoon.

Robert Jolly, administrator of Memorial Hospital, Houston, will conduct a round table on Thursday afternoon, assisted by guest speakers and other Texas hospital administrators.

"Accounting Methods for Small Hospitals" will be presented by Fred J. Bommer, Jr., accountant of Nix Hospital, San Antonio.

During the Convention there will be plenty of opportunity for study of a large group of fine exhibits.

Meeting at the same time and place are the following conventions: Association of Medical Record Librarians of Texas, Texas Association of Nurse Anesthetists, Texas State Association of Occupational Therapists, and Texas Chapter of the American Physiotherapy Association.

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Answering every requirement for patients and for staff, TABLECRAFT is prescribed wherever launderability, economy in use, and attractive appearance are important. Particularly significant from the sanitary viewpoint is TABLECRAFT'S *permanent finish* which definitely prevents linting and preserves the clean, snow-whiteness of the fabric through innumerable washings as well as making stain removal easier . . .

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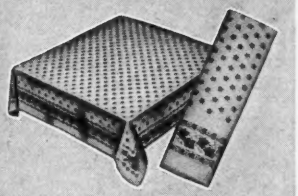

1. TABLECRAFT Cloths, Napkins and Damask by-the-yard are designed and made *right* in America from fine, native-grown cotton.

2. TABLECRAFT is permanently finished by the *exclusive* Basco process. This finishing treatment, instead of merely coating the cloth, protects and becomes part of each individual fibre. The Basco finish contains no starch and is there to stay!

3. TABLECRAFT will not lint and retains its fine appearance through continuous washings.

4. TABLECRAFT has exceptional wearing qualities. Laboratory tests show that it will outwear many higher priced linen damasks.

5. Ordinary stains are easily removed from TABLECRAFT. It requires no special handling in laundering.

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7. TABLECRAFT, although popularly priced, is correctly and smartly styled in snowy white and lovely pastel colors.

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The Hospital Book Shelf

NUTRITION IN DISEASE AND HEALTH. Lenna F. Cooper, Edith M. Baker and Helen S. Mitchell. J. B. Lippincott Company, Philadelphia. Eighth Edition. 1941. $3.50.

When a textbook goes to its eighth edition there is little room for doubt as to its soundness and adaptability for use as a teaching tool.

The present edition conforms in arrangement to the Curriculum Guide for Schools of Nursing and contains a new chapter on "Recommended Dietary Allowances" based on the standard adopted by the Committee on Foods of the National Research Council. The chapter on "Racial Differences in Dietary Habits" gives the most comprehensive discussion of this subject we have seen assembled.

This text merits the place it has earned in the teaching of nutrition in training schools for nurses.

HANDBOOK OF THE RESIDENT STAFF. University Hospitals, University of Oklahoma School of Medicine, Oklahoma City, Oklahoma.

This is the most practical Residents' Handbook it has been our privilege to examine in that it gives all the necessary rules of procedure for every department of the hospital without attempting to set up hard and fast rules for purely clinical procedures.

All necessary information as to organization of the hospital, staff allocation of beds, admitting routines and intern service schedules are set forth concisely but with adequate detail. Each of the clinical divisions is described and its standing orders and routine procedures, including an extensive diet list, set forth in a manner that is easily understood and sufficiently detailed to orient the members of the resident staff as to their contacts with all the departments of the hospital.

The book is pocket size, loose leaf, screw bound, permitting additions and revisions, and each topic is followed by an ample number of blank pages for notes.

MICROBIOLOGY FOR NURSES. Mary Elizabeth Morse, A.B., M.D., and Martin Frobisher, Jr., S.B., Sc.D., F.A.P.H.A., F.A.A.A.S. W. B. Saunders Company, Philadelphia. 6th Edition. 1941.

This text was formerly published as "Bacteriology for Nurses." The present edition has been rewritten to include the newer concepts of asepsis, disinfection, sanitation and public health control programs.

Particular emphasis is placed on the application of bacteriology and the principles and technics of microbiology to nursing procedures, and to bringing the entire text arrangement into conformity with the Curriculum Guide.

SOCIOLOGY APPLIED TO NURSING. Emory S. Bogardus, Ph.D., and Alice B. Brethorst, Ph.D., R.N. W. B. Saunders Company, Philadelphia. 1941. $2.50.

The growing appreciation of the social significance of nursing is bringing to its consideration the combined viewpoints of the sociologist and the nurse educator. This is as it should be. The present volume is a combined effort of two educators representing each of these professions and results in a text which will be of much value to such nursing educators as realize the social implications of their profession.

HUMAN ANATOMY AND PHYSIOLOGY. Nellie D. Millard, R.N., M.A., and Barry G. King, Ph.D. W. B. Saunders Company, Philadelphia. 1941. $3.00.

This text is planned especially for the nurse, and its arrangement conforms to the Curriculum Guide.

It is exceptionally well illustrated, largely from original drawings, and the refreshing style of the text serves to impress the student. Anatomy and physiology are carefully interrelated and the text as a whole should be a welcome addition to the teaching armamentarium.

BODY MECHANICS. Joel E. Goldthwait, M.D., F.A.C.S., LL.D.; Lloyd T. Brown, M.D., F.A.C.S.; Loring T. Swaim, M.D.; John G. Kuhns, M.D., F.A.C.S.; and William J. Kerr, M.D., F.A.C.P. J. B. Lippincott Company, Philadelphia. Third Edition. 1941. $5.00.

Originally written with emphasis on chronic diseases associated with faulty body mechanics, the present revision gives more recognition to the correction of body mechanics of the healthy and the near healthy as a preventive measure against disease.

The book is very well illustrated with drawings, photographs, and x-ray pictures, all well correlated with the body functions under discussion and illustrative typical cases reported.

THE ART AND SCIENCE OF NURSING. Ella L. Rothweiler, M.A., R.N., and Jean Martin White, B.S., R.N. F. A. Davis Company, Philadelphia. 1941. $3.00.

This text is written primarily for the student and thus the presentation adheres to the principles of sound pedagogical practice, eliminates unnecessary duplication, and correlates the principles and practices of nursing with their underlying sciences.

Especial attention is given to the development of the nurse's medical vocabulary, to collateral

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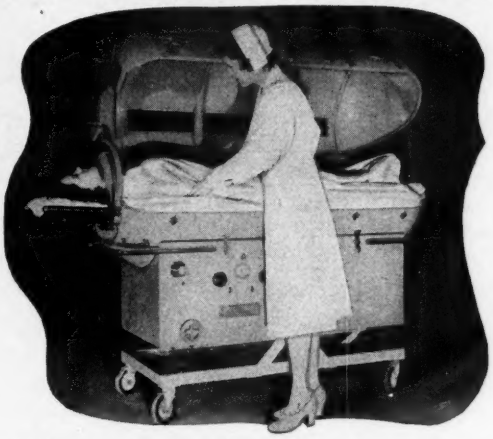

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